

COUNTY BOROUGH OF BRADFORD.

The following are the provisional vital statistics for 1950 with comparable figures for 1949.

	<u>1949.</u>	<u>1950.</u>
Estimated population.....	291,600	292,520.
Births.....	5048	4970.
Birth Rate (per 1000 pop.).....	17.3	16.9.
Stillbirths.....	130	127.
Stillbirth Rate (per 1000 live & stillbirths).....	25.7	24.9.
Deaths.....	4223	4586.
Death Rate (per 1000 pop.).....	14.5	15.6.
Zymotic Diseases Deaths.....	32	44.
Zymotic Diseases Death Rate (per 1000 pop.).....	.01	0.15.
Tuberculosis Deaths - Lungs.....	119	91.
Other Forms.....	22	15.
All Forms.....	141	106.
Tuberculosis Death Rates - Lungs.....	.40	.31.
(per 1000 pop.) Other Forms.....	.07	.05.
All Forms.....	.47	.36.
Tuberculosis Notifications - Lungs.....	276	249.
Other Forms.....	83	67.
All Forms.....	359	316.
Infant Deaths.....	191	178.
Infant Mortality Rate (per 1000 Live births).....	37	35.
Maternal Deaths.....	7	6.
Maternal Mortality Rate (per 1000 live & stillbirths).....	0.98	1.19.

Noteworthy features of the provisional 1950 statistics are:

- (1) The record low infantile mortality rate of 35.
- (2) The record low pulmonary and non-pulmonary tuberculosis death rates of .31 and .05 respectively.

P.T.O.

There has also been a decrease in the number of notifications of pulmonary and non-pulmonary tuberculosis.

It is also gratifying to report that during the year a considerable reduction has been effected in the list of patients suffering from tuberculosis awaiting admission to hospital and sanatorium. The waiting list has been reduced from 77 in March to 42 in December, 1950.

Considerable progress has been made by the Regional Hospital Board and the Bradford 'B' Hospital Management Committee in the provision of beds for the isolation and treatment of patients by the opening of a well-appointed ward of 22 beds at the Leeds Road Hospital. It is understood that another ward of 22 beds will be made available shortly in the same hospital and that the Bradford 'A' Hospital Management Committee intend to open a similar unit of 30 - 32 beds at St. Luke's Hospital, in this way supplementing the excellent provision already made at the Bradford Royal Infirmary of a first-class Thoracic Surgical Unit of 20 beds, where many cases of pulmonary tuberculosis have been successfully treated by surgical measures.

The satisfactory housing of tuberculous patients after their discharge from hospital is still a matter of considerable difficulty. Good progress however, was made during the year and due to the understanding and co-operation of the Public Works Committee, a larger proportion of re-lettings of Corporation houses has gone to families where infection has been present.

JOHN DOUGLAS.

Medical Officer of Health.

THE POPULATION OF BRADFORD, 1801-1949

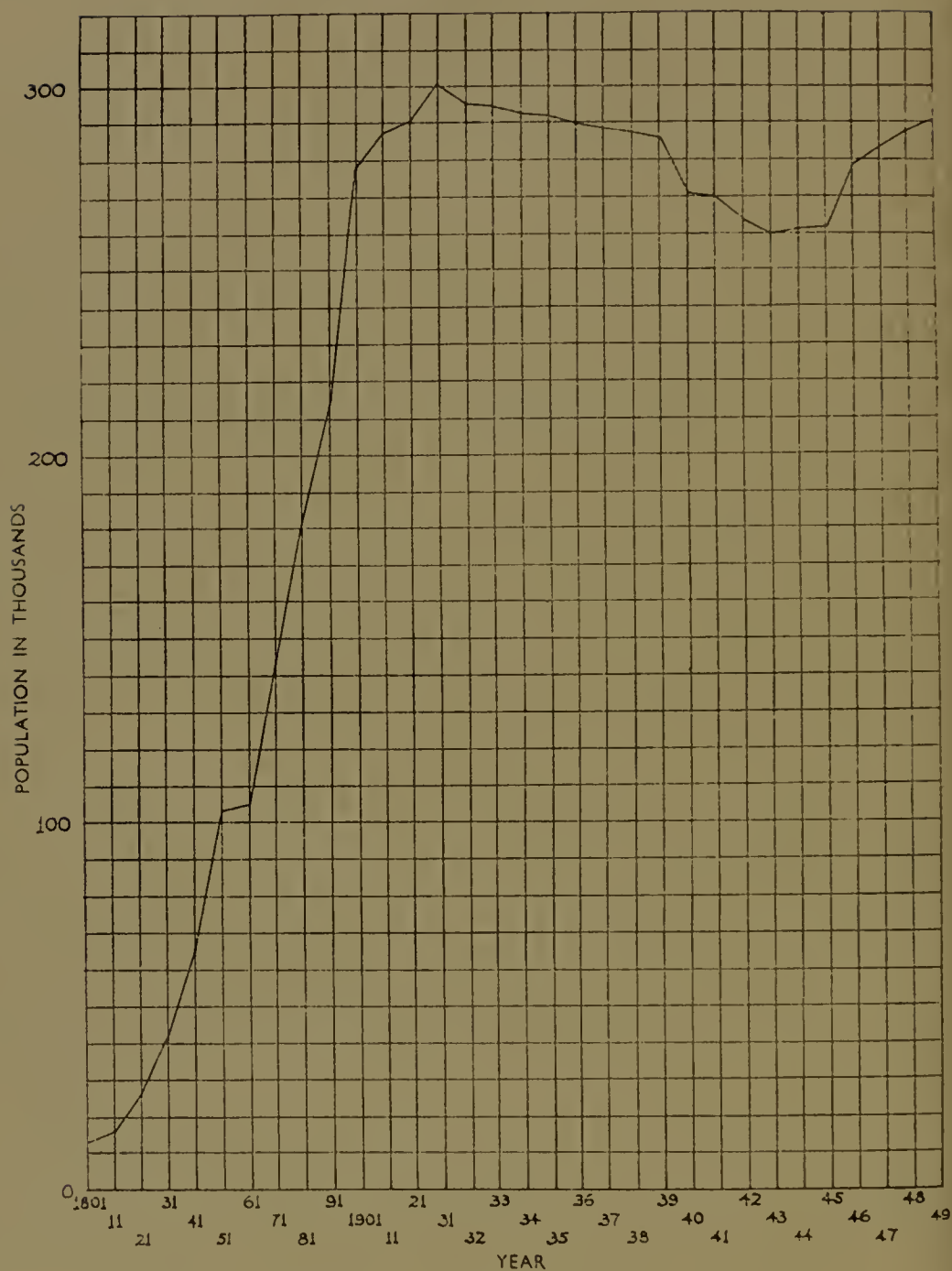


FIG. 1

The Health of Bradford

1949

THE ANNUAL REPORT OF THE MEDICAL OFFICER
OF HEALTH

JOHN DOUGLAS, M.D., D.P.H.

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and

three representatives of three organisations

Preface

The following report on the health of the City has been compiled along the lines laid down by the Ministry of Health.

The chief vital statistics of the year 1949 were:

Population.. ..	291,600				
Birth rate	17·3	per 1,000 of the population			
Death rate.. ..	14·5	" " " "	"	"	"
Zymotic death rate ..	·12	" " " "	"	"	"
Tuberculosis death rate ..	·48	" " " "	"	"	"
Infantile mortality rate ..	37	" " live births			
Maternal mortality rate ..	1·35	" " live and still births			

Compared with 1948 the figures show a fall of 1·5 per 1,000 in the birth rate, and an increase of 1·1 in the death rate. The standardised death rate was 14·21 and compares with the England and Wales rate of 11·7.

While the death rate from tuberculosis remains much the same as last year, there has again been an increase in the number of notifications of pulmonary tuberculosis—276 against 207 in 1948. This may partly be due to better ascertainment of cases as the result of the operations of the Mass Radiography Unit, but it is regrettable to have to record that there are many infective cases of pulmonary tuberculosis living in their own homes in most unsatisfactory conditions, sometimes occupying the same room and even the same bed as susceptible children. For many years the death rate from tuberculosis (all forms) in Bradford has been lower than the rate for England and Wales. In 1949, however, for the first time since 1938, the Bradford rate (·48 per 1,000) was higher than that for the country as a whole (·45 per 1,000) and although it was considerably lower than the rate for the County Boroughs and great towns (·52 per 1,000), there is reason for disquiet. Contributory factors to this state of affairs are undoubtedly the unsatisfactory housing circumstances of so many of the patients, circumstances in which it is quite impossible to secure the necessary isolation of the patient in a bedroom to himself, and secondly, the inability to secure for the patient prompt admission to a bed in a hospital or sanatorium. Determined efforts are being made by the Local Authority and by the Leeds Regional Hospital Board and the Hospital Management Committees to remedy these deficiencies, but so far without much success. The introduction of B.C.G. vaccination may, over a number of years, prove to be a preventive measure of the utmost value.

On the other hand, deaths from certain other infectious diseases (the zymotic death rate) are the lowest ever recorded in the City, and similarly it is gratifying to report an Infantile Mortality Rate of 37, which is also a record low figure.

The City was free from Anterior Poliomyelitis for 12 months until July, after which 29 cases occurred. Eleven made a complete recovery and 8 were left with only a minor disability.

An outstanding event of the year, marking a notable advance in the public health affairs of the City, has been the acquisition by the Corporation of certain additional powers by virtue of the Bradford Corporation Act, 1949. Part IV dealing with infectious diseases and sanitary matters enables the Corporation to restrict attendance of children at schools and places of assembly, to close schools and exclude children from entertainments, to pay compensation to persons for ceasing employment to prevent spread of disease, and to demand entry into premises in the case of disease. Other Sections deal with the cleansing of filthy and verminous premises, the prohibition of the sale of verminous furniture or clothing, the provision of sanitary conveniences for workmen, the interference with refuse bins, and the throwing of slop water into street gullies. Section 28 requires the registration of hairdressers and barbers and their premises. Section 8 enables the Corporation to require the removal of rubbish or material from the sites of demolished houses. Part V gives the Corporation powers to supply heat by means of hot water or steam to such premises in the City as they may think fit, and Part VI gives additional powers to prevent smoke. Section 50 permits the Corporation to establish smokeless zones in the City and Section 49 prohibits the installation in any building of any furnace for the purpose of steam-raising or for any manufacturing or trade purpose unless such furnace is so far as practicable capable of being operated continuously without emitting smoke. Part IX of the Act lays it down that establishments for massage and special treatment must be licensed. The preparation of evidence in support of the Bill involved a great deal of work by the Chief Sanitary Inspector and his officers and I would pay tribute to Mr. Thomas Sewell, not only for the merit of his work in this connection but also for his thirty-eight years' of loyal and devoted service to the Department and the City Council. He retired from office in December, 1948.

John Douglas

Section I

ocial Circumstances and Vital Statistics

POPULATION

METEOROLOGY

BIRTHS

MARRIAGES

DEATHS

INFANTILE MORTALITY

STILLBIRTHS

MATERNAL MORTALITY

AGE PROPORTION OF POPULATION

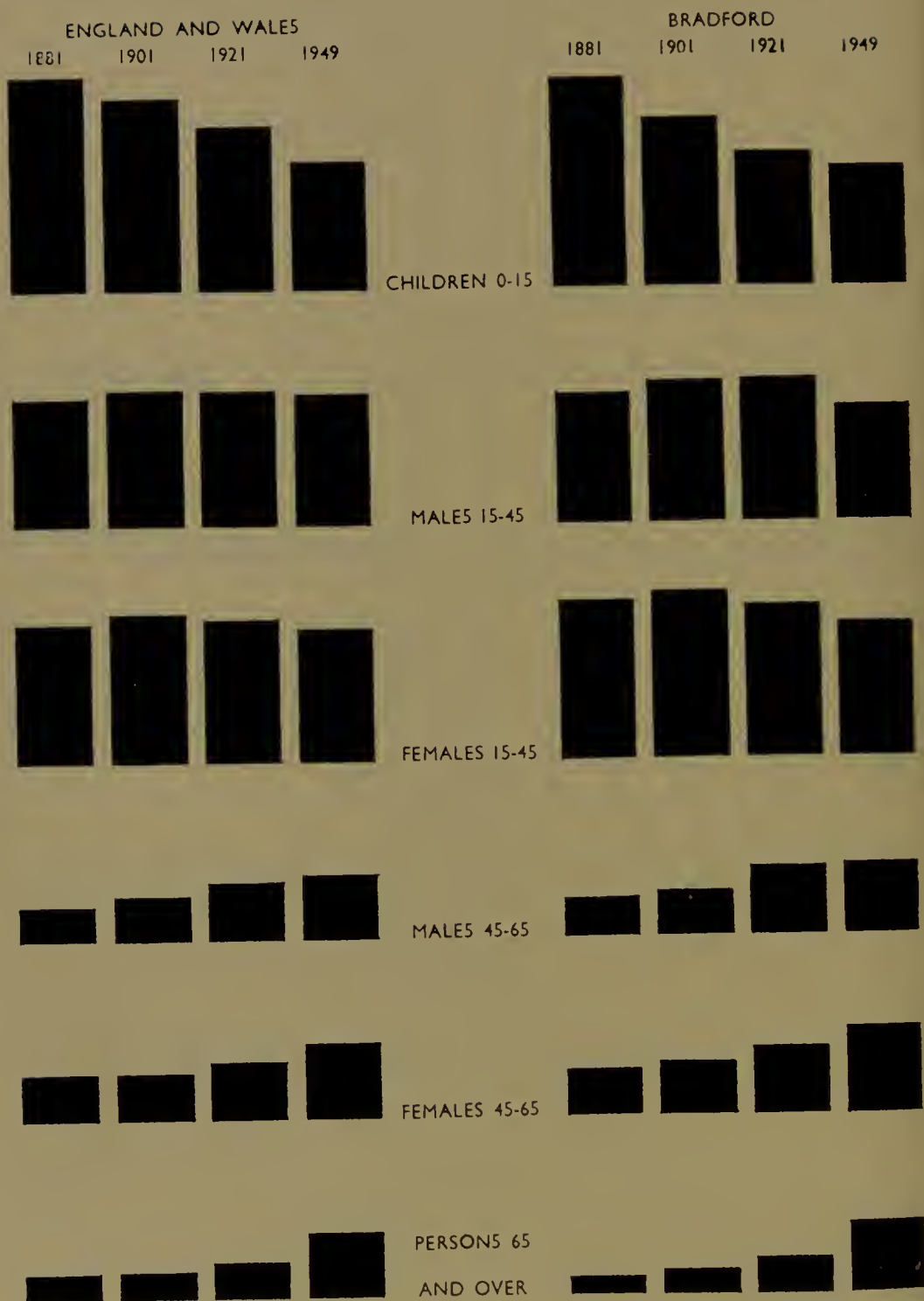


FIG. 2

Social Circumstances and Vital Statistics

Population and Social Circumstances of the Area

The last official Census of the population was made in 1931, when there were 298,041 persons resident in the Area. This is the highest figure recorded and marks the peak of a remarkable increase during 130 years from 1801, when the population was 13,000. Since 1931 the population has tended to decrease and the Registrar General's estimate for 1939 was 287,000. There were considerable fluctuations during the war years; the lowest estimate of civilian population being 260,000 in 1943. Since 1945 there has been a gradual increase, and the figure for 1949 is 291,600; a little above that for the 1939 estimate, and 3,100 above the 1948 figure.

In common with the rest of the country, there is a change taking place in the age constitution of the population. This is clearly shown in Figure 2. The swing in the age structure from young to old is creating medico-sociological problems which become increasingly difficult to solve.

There is a most noticeable decrease since 1921 in the number of males in the 15-45 age group as compared with the decrease (1.8 per cent) in the corresponding age group for England and Wales. This will lead to an increased employment of women of the same age group, an age group which is the most important section of the female population. There has always been a large number of females employed in Bradford, and it would seem that this tendency will increase.

Meteorology

Bradford, situated as it is in a bowl-shaped depression on the east side of the Pennines, has a climate typical of its position and altitude. The City extends to 25,000 acres and varies in altitude from 1,200 ft. at Queensbury to 300 ft. at the City centre and 200 ft. at Esholt. The annual average of mean temperatures for the 30 year period ending 1935 was 47·5°F. compared with the 47·1°F. of Durham, 48·9°F. of Hull; 49·1°F. of Liverpool and 50·7°F. of London.

The average of the monthly mean temperatures for the year 1949 was 49·6°F. compared with 47·5°F.; the average for the 30 years ending 1935.

Rainfall amounted to 30·10 inches, compared with the average for the 40 year period ending 1948 of 34·04 inches.

There were 1,525 hours of bright sunshine, compared with the annual average for the 30 years ending 1935 of 1,215 hours.

Bradford is not alone in suffering from fogs. It is a common experience in the industrial centres of the north, and the death rates in such areas are considerably higher than those of rural communities of the same latitude. Smoke and fog, by reducing the effective sunshine and acting as an irritant of the lungs and bronchi is a serious menace to the health of the citizens. Those who are unfortunate enough to suffer from asthma or bronchitis or other affection of the lungs, are well aware of the discomfort and distress it can cause.

MAXIMUM AND MINIMUM TEMPERATURE, FOG AND SNOW

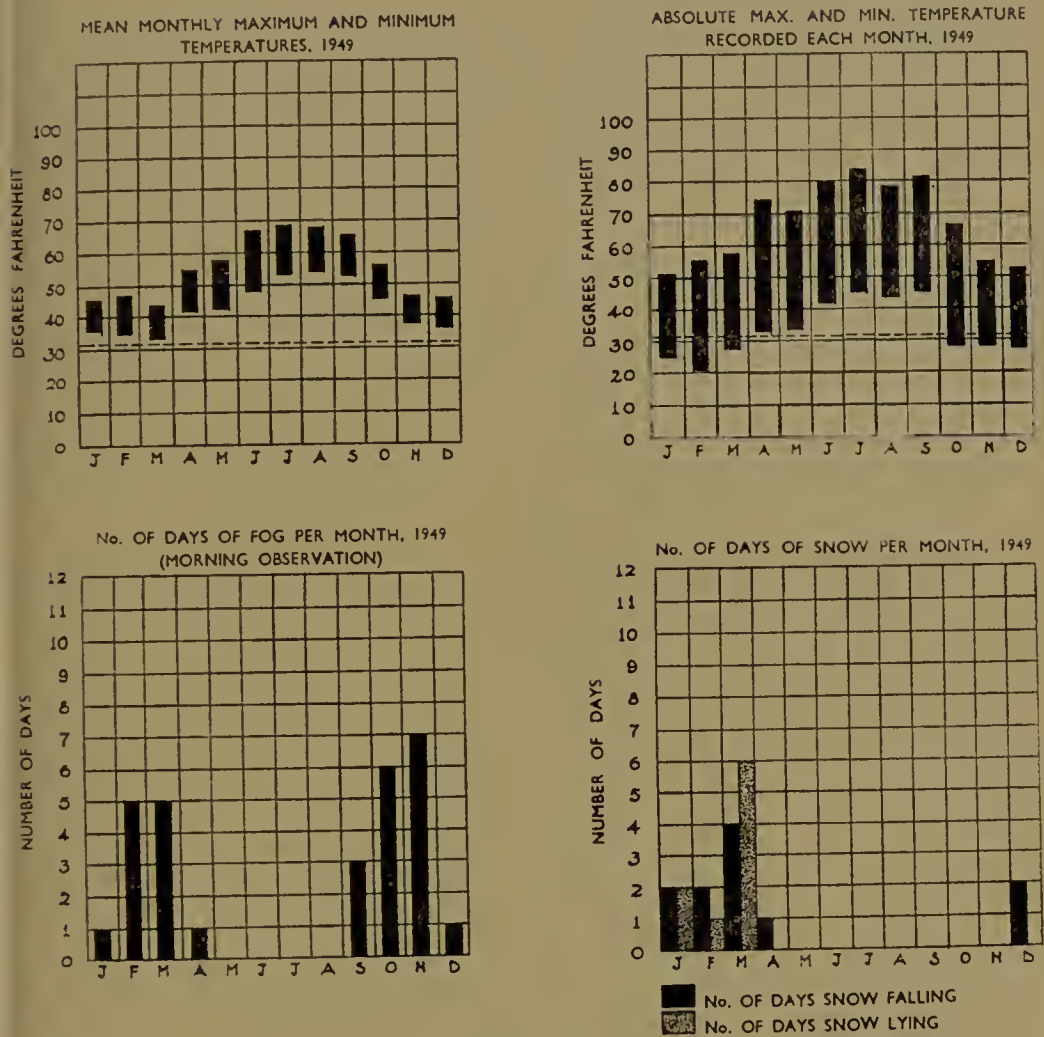


FIG. 3

MEAN MONTHLY TEMPERATURE, SUNSHINE AND RAINFALL

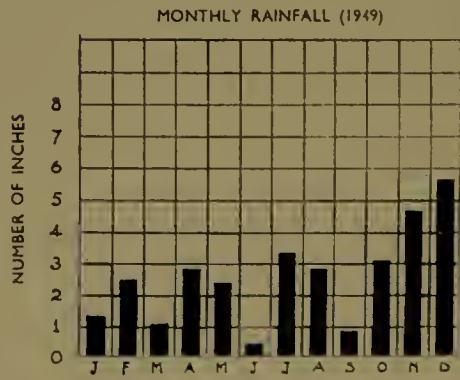
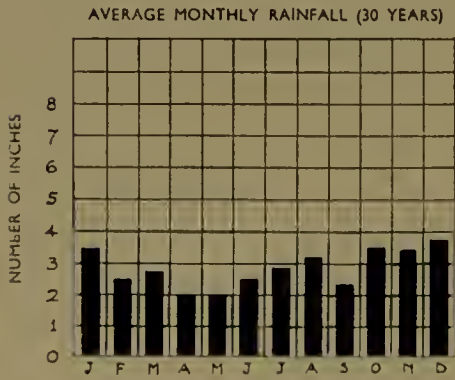
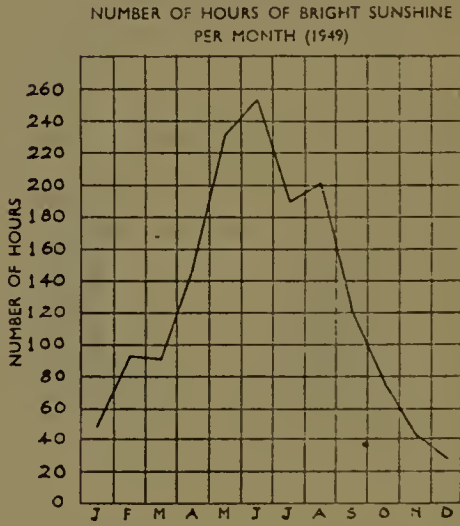
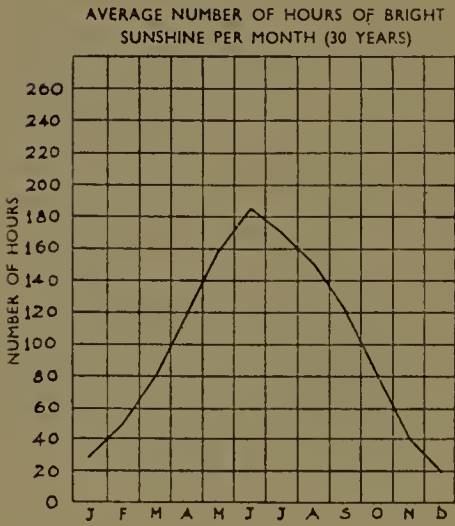
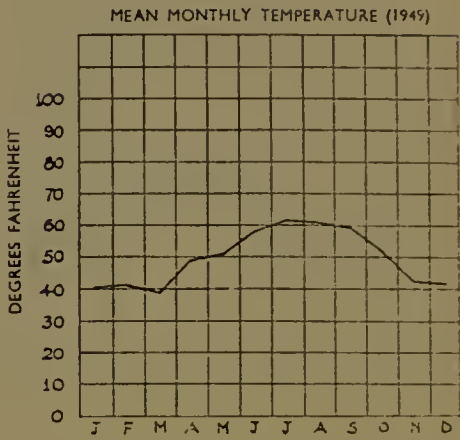
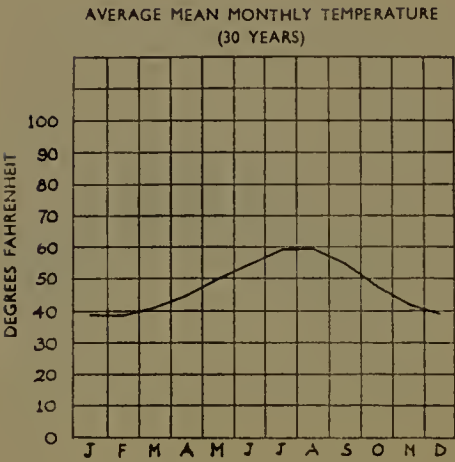


FIG. 4

Births

Births registered during the year numbered 5,048, 2,623 males and 2,425 females. The birth rate of 17·3 per thousand of the population shows a decrease of 1·5 per thousand from 1948.

In Bradford the birth rate reached a peak of 40 in 1874. Its downward movement since that time is shown in Table 1 and Fig. 5.

TABLE 1

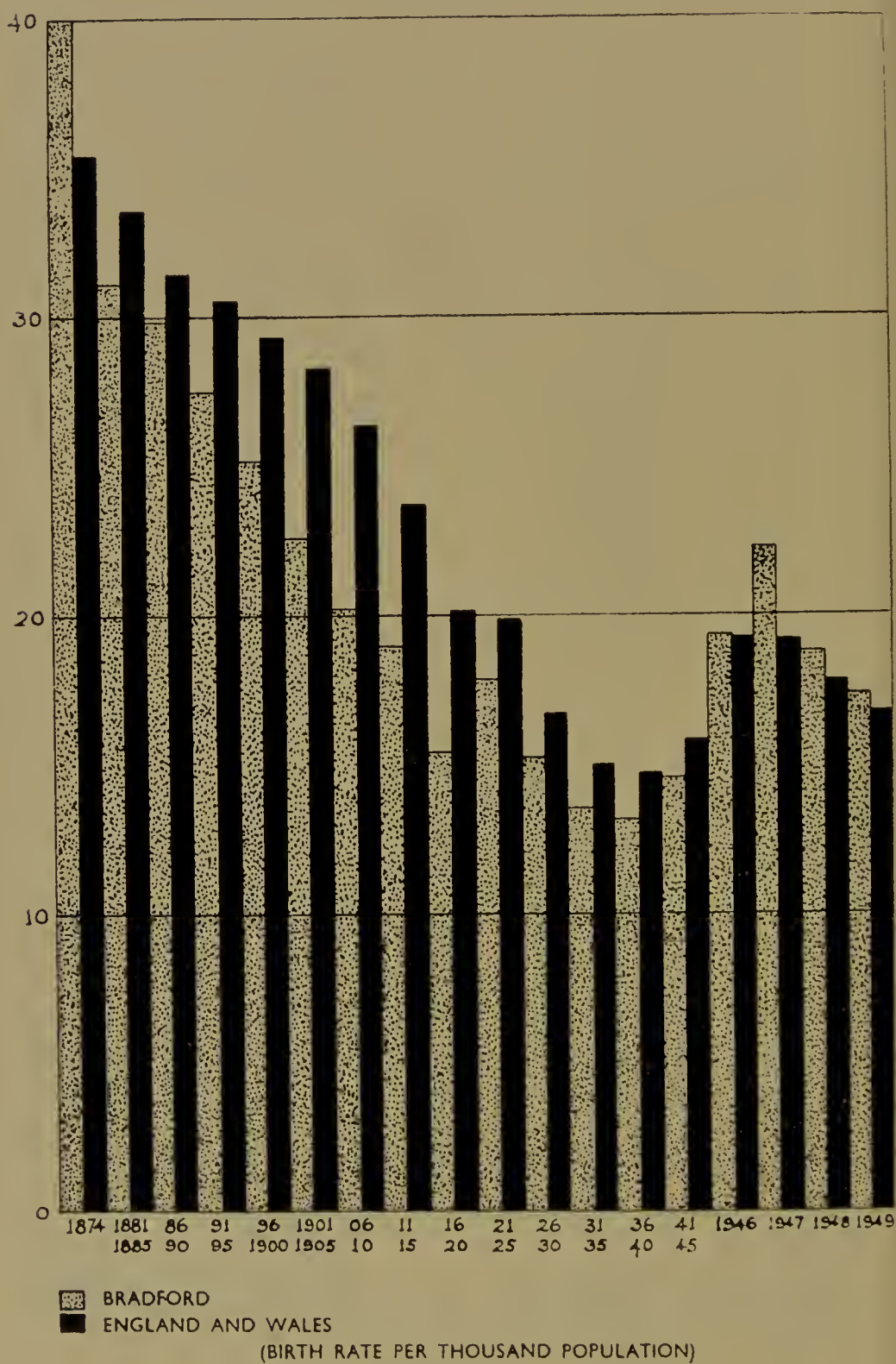
Year			Bradford	England and Wales
1874	..	..	40·0	35·3
1881-85	..	..	31·1	33·5
1886-90	..	..	29·8	31·4
1891-95	..	..	27·5	30·5
1896-1900	..	..	25·1	29·3
1901-05	..	..	22·6	28·2
1906-10	..	..	20·1	26·3
1911-15	..	..	19·0	23·6
1916-20	..	..	15·4	20·1
1921-25	..	..	17·9	19·9
1926-30	..	..	15·2	16·7
1931-35	..	..	13·5	15·0
1936-40	..	..	13·1	14·7
1941-45	..	..	14·5	15·9
1946	..	..	19·3	19·2
1947	..	..	22·2	19·1
1948	..	..	18·8	17·9
1949	..	..	17·3	16·7

Of the 5,048 births registered, 287 or 5·6 per cent were illegitimate; a rate of 1·7 per cent less than in 1948. Thus, roughly, one in every eighteen children is born out of wedlock. This rate has ranged from a minimum of 4·3 per cent in 1906 to a maximum of 10·8 per cent in 1945. Its movement during the two wars is shown in Table 2 and Fig. 6.

TABLE 2 *Illegitimate Births per 100 Total Live Births*

Year		1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
Bradford	..	4·1	4·6	4·2	5·1	4·3	4·4	4·8	3·8	4·3	5·2
England and Wales	..	4·2	4·4	4·8	5·6	6·3	6·0	4·7	4·4	4·2	—
Year		1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Bradford	..	6·3	5·7	6·0	7·0	8·4	10·8	7·8	7·0	7·3	5·6
England and Wales	..	4·3	5·4	5·6	6·4	7·3	9·3	6·7	5·3	5·4	5·0

THE BIRTH RATE OF BRADFORD AND ENGLAND AND WALES, 1874-1949



THE ILLEGITIMATE BIRTH RATE OF BRADFORD AND ENGLAND AND WALES DURING THE TWO WARS

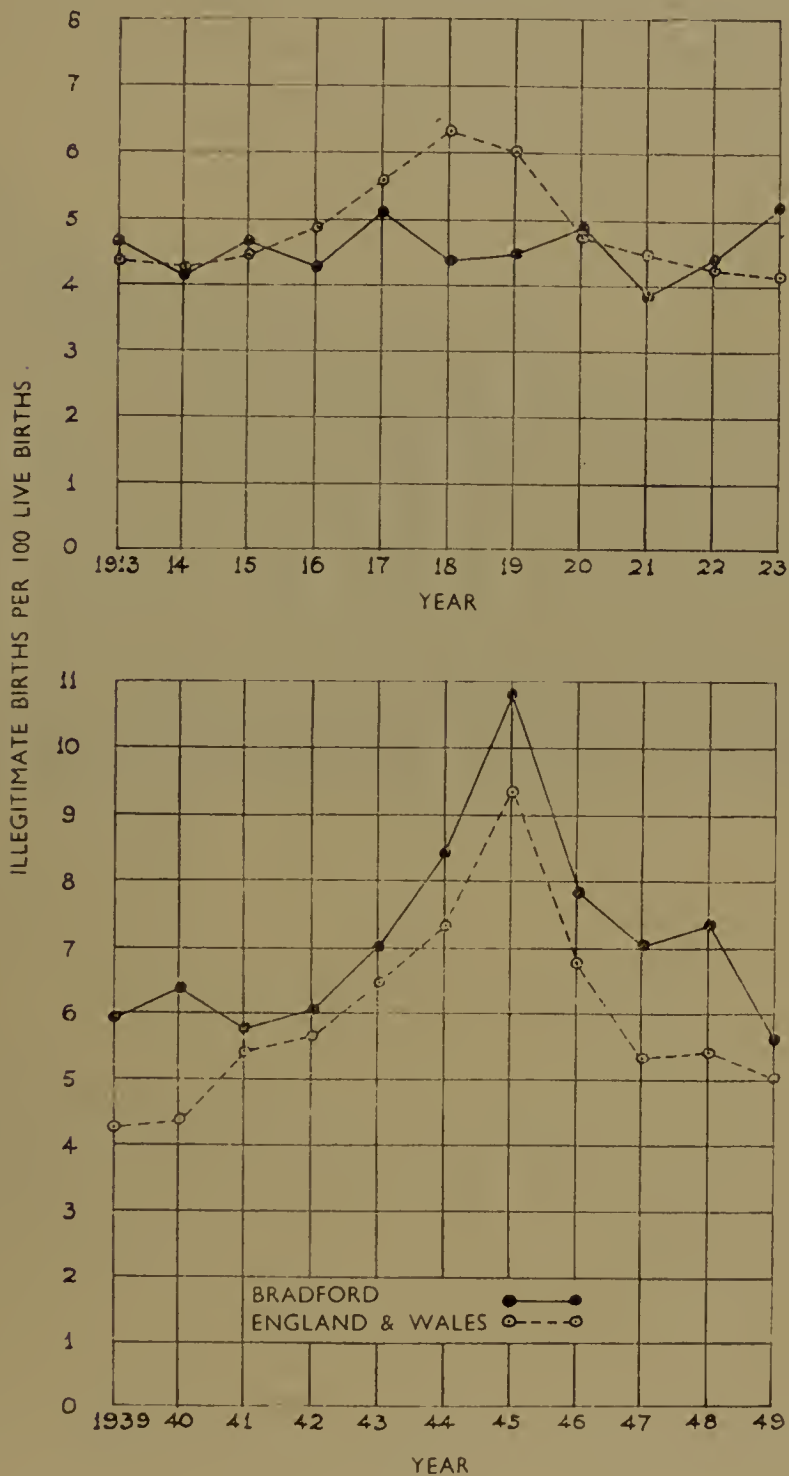


FIG. 6

Marriages

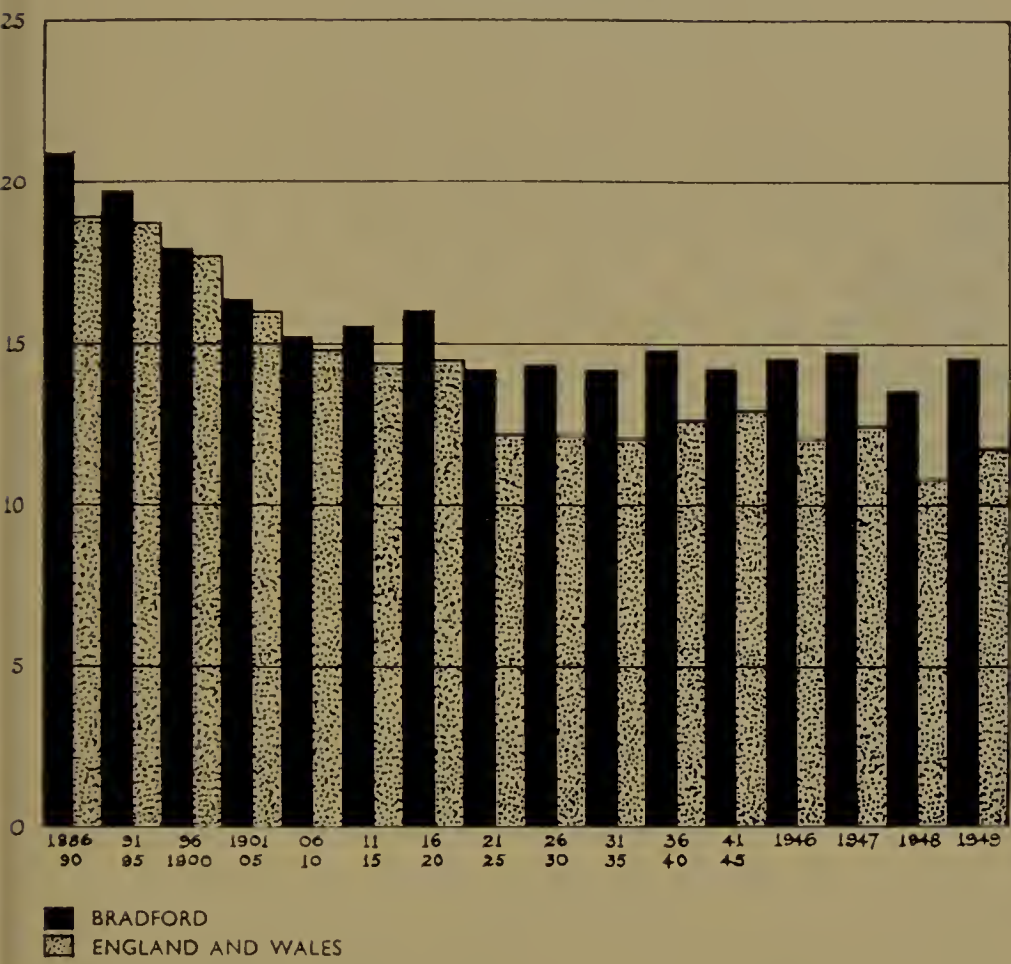
The marriage rate for 1949 was 17·2 per 1,000 of the population as compared with 20·7 for 1948 (England and Wales 1948—18·2). The fluctuations in the marriage rate for England and Wales is shown in Table 3.

TABLE 3

Year	Persons married per 1,000 of population— all ages		Decree <i>msi</i> made absolute during 1947 and previous years
	England	Wales	
1936	..	17·4	4,057
1937	..	17·5	4,888
1938	..	17·6	6,250
1939	..	21·2	7,955
1940	..	22·5	7,755
1941	..	18·6	6,383
1942	..	17·7	7,645
1943	..	14·0	9,999
1944	..	14·3	12,312
1945	..	18·7	15,634
1946	..	18·0	Bradford 30,298
1947	..	18·6	21·9 60,190
1948	..	18·2	20·7 43,698
1949	..	—	17·2 —

Table 3 also shows the extraordinary increase which has taken place in the number of dissolutions and annulments of marriage. Whereas in 1876 there was one marriage dissolved for every 693 marriages contracted, in 1949 there was one marriage dissolved for every 10 marriages contracted.

THE CRUDE DEATH RATE OF BRADFORD AND ENGLAND AND WALES, 1886-1949



(DEATH RATE PER THOUSAND POPULATION)

FIG. 7

Deaths

The reasons for the excess of urban over rural mortality have been stated as: (1) the crowding together of houses; (2) the crowding together of people into houses too small for them; (3) the apparent aggravation by urban conditions of other adverse effects of economic pressure upon the standard of living and environment, and (4) the production of smoke from factories and houses which reduces the effective sunshine. Bradford, typical of the large industrial towns of the north has had for many years an excess mortality over that of England and Wales of approximately two deaths per thousand of the population. The 1948 rate, for example, was 13·4, compared with 10·8 for England and Wales, 11·6 for the West Riding of Yorkshire, and 12·5 for the County Boroughs. Amongst County Boroughs with the same or higher rates were Halifax, 13·8; Blackburn, 14·3; Burnley, 14·2; Bury, 13·4, and Rochdale, 14·1. During 1949 there were 4,223 deaths (2,085 male, 2,138 female) giving a Crude Death Rate of 14·5 per thousand of the population. Table 4 and Fig. 8 show the distribution of deaths by separate age groups:

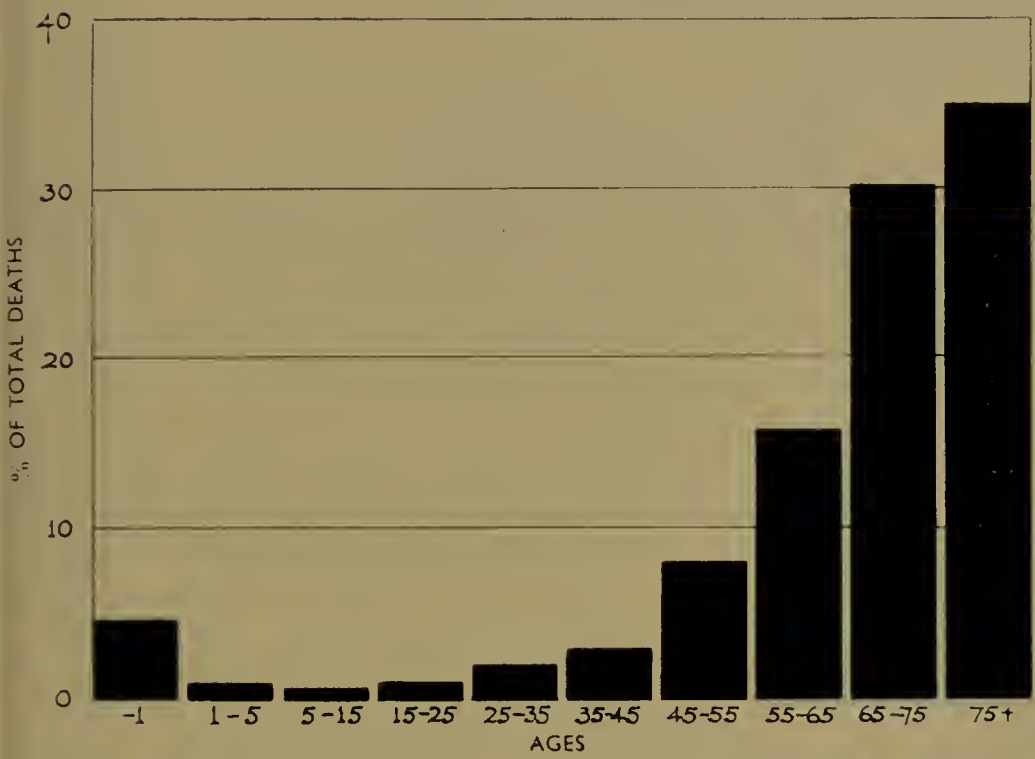
TABLE 4

Age				1946	1947	1948	1949
Under 1 year	..	..		265	380	235	191
1-2 years	..	..		17	13	13	14
2-5 "	..	..		13	20	25	26
5-15 "	..	..		30	27	22	24
15-25 "	..	..		46	57	57	40
25-35 "	..	..		86	73	77	76
35-45 "	..	..		148	153	132	119
45-55 "	..	..		316	339	318	334
55-65 "	..	..		712	665	659	658
65-75 "	..	..		1,177	1,146	1,135	1,272
Over 75 years	..	..		1,230	1,326	1,198	1,469

Fig. 9 is a comparative histogram for the year 1883 when there were approximately the same number of deaths (3,741) as there were in 1948 (3,871). It would appear that sixty-five years ago approximately 75 per cent of the deaths were of persons under the age of 55 and 25 per cent

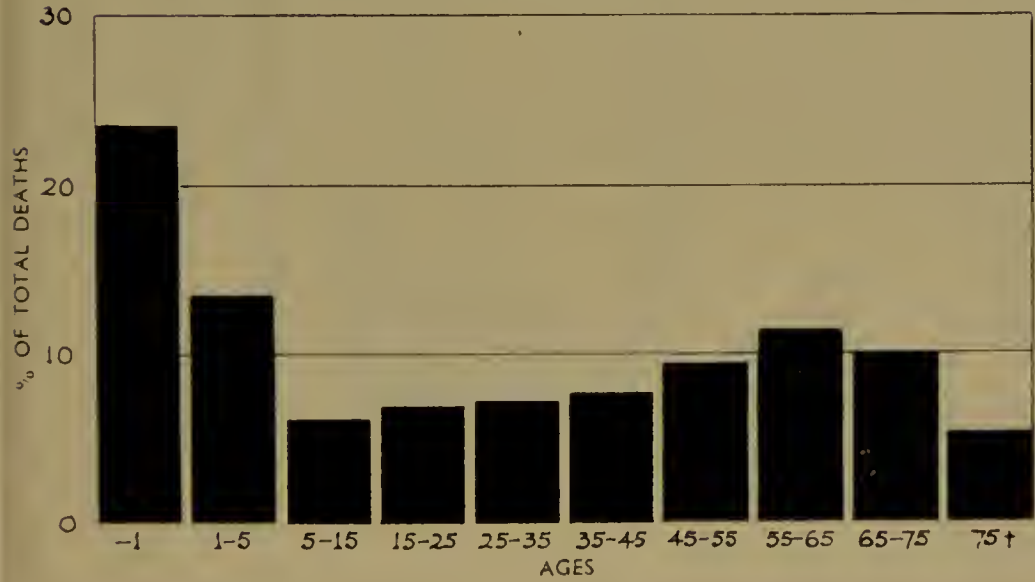
DEATHS BY SEPARATE AGE GROUPS—BRADFORD, 1949

TOTAL DEATHS 4223



DEATHS BY SEPARATE AGE GROUPS—BRADFORD, 1883

TOTAL DEATHS 3741



FIGS. 8 AND 9

over that age. Today, the proportions are reversed, 25 per cent of the deaths being of persons under 55 and 75 per cent over that age.

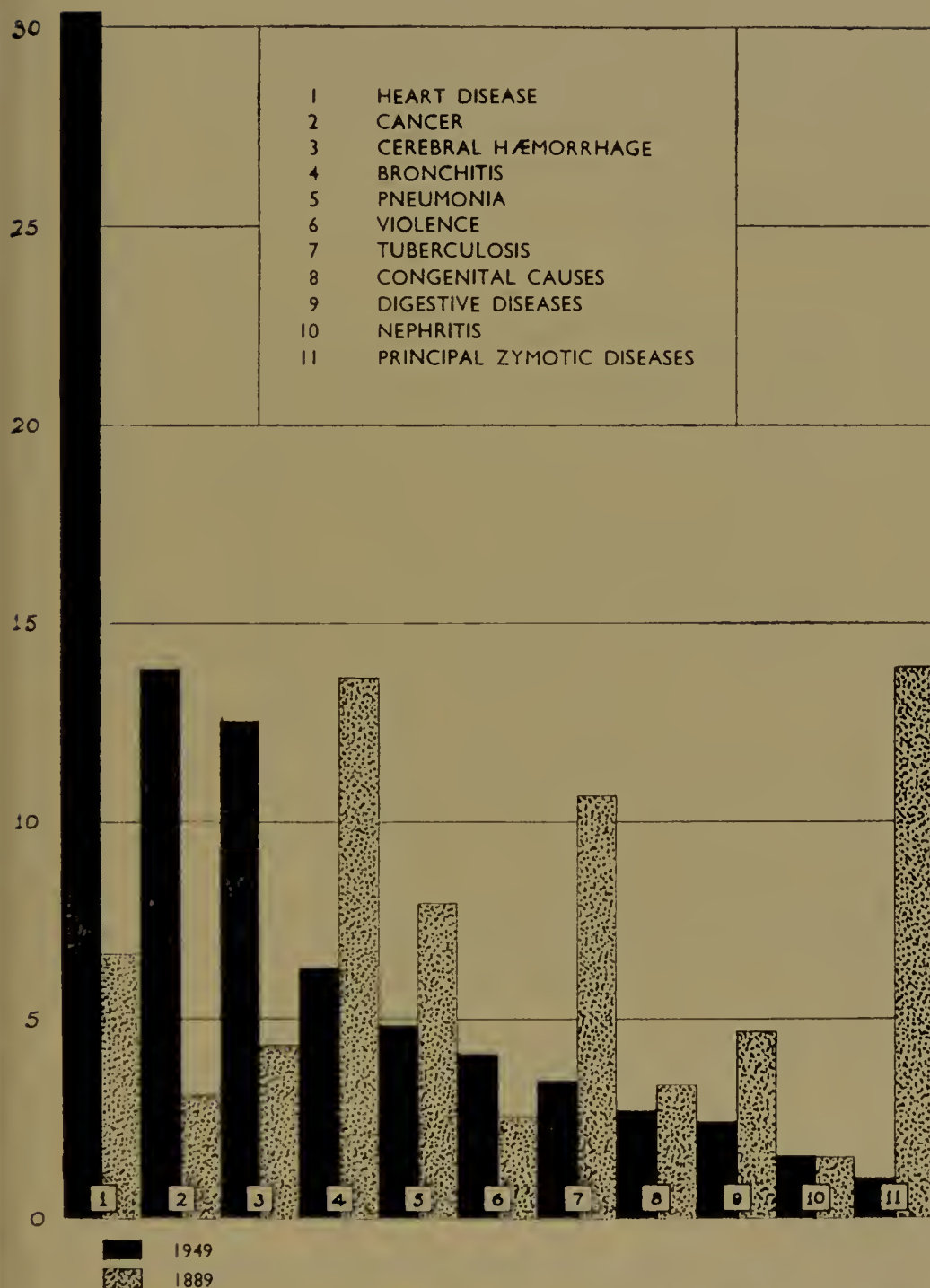
Causes of Death

Table 5 and Fig. 10 show the relative frequency of the Causes of Death in Bradford in 1949. Heart disease was responsible for 31·37 per cent of the total deaths, followed by cancer, 13·72; cerebral hæmorrhage, 12·47; bronchitis, 6·22; pneumonia, 4·82; violence, 4·04, and tuberculosis, 3·33. Fig. 10 also shows the relative frequency of the same Causes of Death in 1889.

The histograms demonstrate in the most striking fashion the diminution that has taken place in the number of deaths due to the epidemic diseases such as the enteric fevers, diarrhœa and enteritis, scarlet fever, diphtheria, measles and smallpox. Whereas in 1889, 13 per cent of all deaths were due to these causes, today they are responsible for only 1 per cent. Similarly, sixty years ago, tuberculosis took its toll to the extent of 10 per cent of all deaths. In 1949 only 3 per cent were due to this disease. Deaths due to bronchitis and pneumonia in 1949 are less than half the number recorded in 1889.

On the other hand, deaths due to the degenerative diseases of old age are on the increase and now top the list—heart disease, cancer, cerebral hæmorrhage and thrombosis accounted for 57·59 per cent of all deaths in 1949.

RELATIVE FREQUENCY OF CAUSE OF DEATH BRADFORD, 1949 AND 1889



(NUMBERS EXPRESSED AS A PERCENTAGE OF THE TOTAL NUMBER OF DEATHS)

FIG. 10

Heart Disease

The death rates for Heart Disease, as a whole, have been increasing steadily during the last twenty years. While much of this increase may be due to changes in certification and rules of classification, it cannot all be explained in this way. Deaths from coronary disease and angina pectoris are four times greater than they were in 1889.

TABLE 5 *Bradford 1949* *Relative Frequency of Causes of Death*

Causes of Death						Number	Percentage of Total
Heart Disease	..	..	..	..	..	1,326	31·37
Cancer	..	..	..	..	..	580	13·72
Cerebral Hæmorrhage and Thrombosis, etc.						527	12·47
Bronchitis	..	..	..	..	..	263	6·22
Pneumonia	..	..	..	..	..	204	4·83
Violence	..	..	..	..	..	171	4·04
Tuberculosis (all forms)	..	..	..	..	..	141	3·31
Congenital malformations, birth injuries	..	..	..	..	..	65	1·53
Premature births	..	..	..	..	..	48	1·13
Disease of Digestive Systems	..	..	..	..	..	102	3·10
Nephritis	..	..	..	..	..	63	1·48
						3,490	83·21

(See Fig. 10—Relative Frequency of Causes of Death.)

Cancer and other Tumours

There were 580 deaths from this disease, a Crude Death Rate of 1950 per 1,000,000, which is little at variance with the rates for the past seven years.

TABLE 6 *Deaths from Cancer, Bradford Crude Death Rates:*
Bradford, England and Wales

	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948
<i>Bradford</i>										
Deaths	..	514	540	564	594	612	608	562	646	609
Crude Death Rate per 1,000,000	..	1,810	1,990	2,090	2,240	2,310	2,310	2,130	2,310	2,130
<i>England and Wales</i>										
Crude Death Rate per 1,000,000	..	1,685	1,780	1,837	1,891	1,957	1,953	1,990	1,911	1,907

It is, however, difficult to obtain an accurate appreciation of the position from an examination of the Crude Mortality Rates. From the standardised rates for the country as a whole, it would appear that there has been a slight increase of the mortality rate amongst males to the level that obtained between 1921 and 1938, whereas the rate for females, appreciably lower than that for males, has remained stationary for the four years 1944–47 at a figure lower than that for the period 1931–36.

Over the last seventeen years in England and Wales there has been a rapid and continued increase in cancer of the lung; an increase which is more marked in males than females. This increase is reflected in the Bradford figures. In 1932 there were 18 deaths from cancer of the lung, 36 in 1936, 42 in 1940 and 82 in 1949.

There is no satisfactory explanation of the increase in the incidence of cancer of the lung, but an observation of Dr. Percy Stocks, Chief Statistician (Medical) General Register Office, is worthy of note. He has demonstrated a significant negative correlation between the death rates from lung cancer and bronchitis in certain towns, and the annual bright sunshine in those localities.

Towns with high mortality rates from lung cancer and brouchitis had low rates of annual sunshine. He suggests that the only explanations of these observations are that either smokiness of atmosphere is an important factor in itself, producing cancer of the lung, or sunshine is an important factor in preventing its incidence.

The increase in lung cancer mortality rates is largely offset by decreases in rates for other sites—for example, mouth, throat, oesophagus, and skin in males; stomach and gall bladder in both sexes, and uterus in females. The rate for cancer of the female breast remains stationary.

Intra-cranial Vascular Lesions

This heading includes deaths from cerebral hæmorrhage (apoplexy), cerebral embolism and thrombosis. There were in all, 527 deaths (240 males and 287 females).

TABLE 7 *Deaths from Cerebral Hæmorrhage, etc., 1941-1949: Bradford*

	1941	1942	1943	1944	1945	1946	1947	1948	1949
Males ..	201	190	177	201	190	188	179	196	240
Females	287	244	215	279	292	267	271	221	287
Persons	488	434	392	479	482	455	450	417	527

There has been no significant alteration to the death rates from intra-cranial vascular disease.

Pneumonia and Bronchitis

TABLE 8 *Deaths from Bronchitis, Pneumonia, 1940-1949: Bradford*

<i>Bronchitis</i>	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Males ..	268	174	168	168	142	153	153	199	142	167
Females ..	206	149	96	130	90	112	84	115	99	96
Persons ..	474	323	264	298	232	265	237	314	241	263
<i>Pneumonia</i>										
Males ..	137	95	104	112	114	102	97	109	93	100
Females ..	76	57	71	93	67	73	75	74	80	104
Persons ..	213	152	175	205	181	175	172	183	173	204

The bronchitis figures for England and Wales show very little variation for males between 1940 and 1949. There has been, however, a slight but steady decrease in the deaths from this disease amongst females over the same period. Deaths from pneumonia for both sexes, on the other hand, have decreased steadily during the same period. Although standardised figures for Bradford are not available, it would seem that the experience of England and Wales is reflected in the Bradford figures for these diseases of the respiratory system.

Violence

Deaths from violence numbered 171; suicide accounting for 41, and road accidents for 26.

Tuberculosis

There were 119 deaths from respiratory tuberculosis; a crude death rate of 0·40, and 22 deaths from other forms of tuberculosis, giving a crude death rate of 0·07.

The crude death rate from all forms of tuberculosis was 0·48.

TABLE 9 *Deaths from Tuberculosis, Mortality Rates per 1,000,000 of the All Forms: Bradford Population: Bradford, England and Wales*

Year	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Deaths, Bradford ..	166	178	178	151	167	142	149	150	148	141	141
Bradford Rate ..	596	655	661	570	642	542	525	538	512	489	483
England and Wales											
Rate	636	699	730	657	658	628	615	551	552	507	450

During the past thirty years there has been a great reduction in the death rate from all forms of tuberculosis. The death rate has been halved in the twenty-five years since 1923.

TABLE 10 *Deaths from Pulmonary Tuberculosis: Bradford Mortality Rates per 1,000,000: Bradford, England and Wales*

Year	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Deaths, Bradford ..	142	149	147	116	130	115	105	130	121	121	119
Bradford Rate ..	499	548	546	438	499	439	377	466	420	419	407
England and Wales											
Rate	538	588	602	542	557	524	515	468	473	440	—

Infantile Mortality

In Bradford in 1949 there were 191 deaths of children under 1 year of age. This corresponds to an Infantile Mortality Rate of 37, which is the lowest ever recorded and which is five times less than that for the year 1875 (202). It is higher, however, than that for England and Wales (32) and is the same as the average rate for the County Boroughs.

TABLE 11 *Infant Mortality Rate: Bradford, England and Wales*

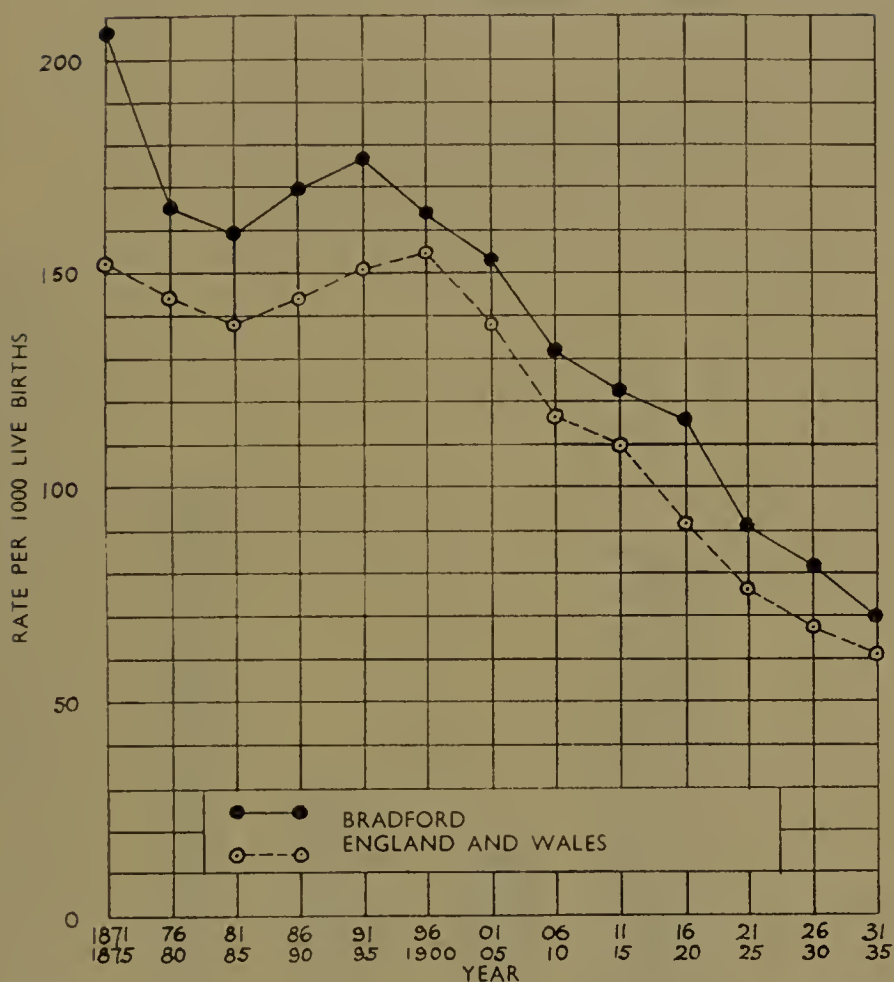
Year	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Bradford	62	69	70	52	51	54	65	51	60	43	37
England and Wales	51	57	60	51	49	45	46	43	41	34	32

Fig. 13 shows how the rates for both Bradford and England and Wales have diminished during the war years and after. The Bradford rate, which has for many years been, on the average, 6 to 9 per 1,000 higher than the rate for England and Wales, has not shown the same steady decrease evidenced by the England and Wales figures. In 1945 and 1947 there were sharp rises from 53 in 1944, to 65 in 1945 and from 49 in 1946 to 60 in 1947. An increased incidence of diarrhoea and enteritis during these years was responsible.

Diarrhoea is a disease of overcrowding, whether it be in the house or the Maternity Ward. The measure that will do most to reduce still further the Infantile Mortality rate is the abatement of overcrowding by the provision of more and better houses. In the meantime, improvement of hospital accommodation for infants, so as to reduce the risk of cross infection in the wards, improved hygiene in the marketing and preparation of food, heat treatment of milk and above all, better health education of parents will do much to help. It is in the overcrowded homes of the poor where the Health Visitor is given her greatest opportunity. A visit once a month to each mother and baby living in such conditions is essential; once a week is preferable; once in two months, unfortunately, is all that is possible because of the dearth of these most valuable women.

INFANTILE MORTALITY RATES—BRADFORD AND ENGLAND AND WALES

QUINQUENNIAL PERIODS, 1871-1935



YEARLY, 1936-1949

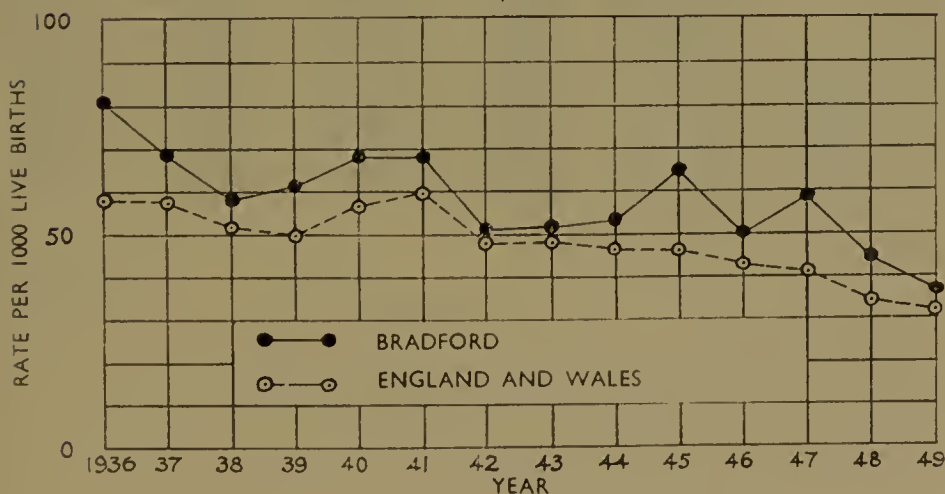


FIG. 11

Since 1947, because of the shortage of qualified staff, priority of visits had to be given to mothers and babies living in the worst conditions, and special attention was given to unmarried mothers and their children.

TABLE 12 *Infantile Mortality Rates per 1,000 Live Births* *Illegitimate and Legitimate Infants*

Year	1942	1943	1944	1945	1946	1947	1948	1949
Illegitimate	69	76	67	80	70	63	43	44
Legitimate	50	47	52	63	47	59	43	37

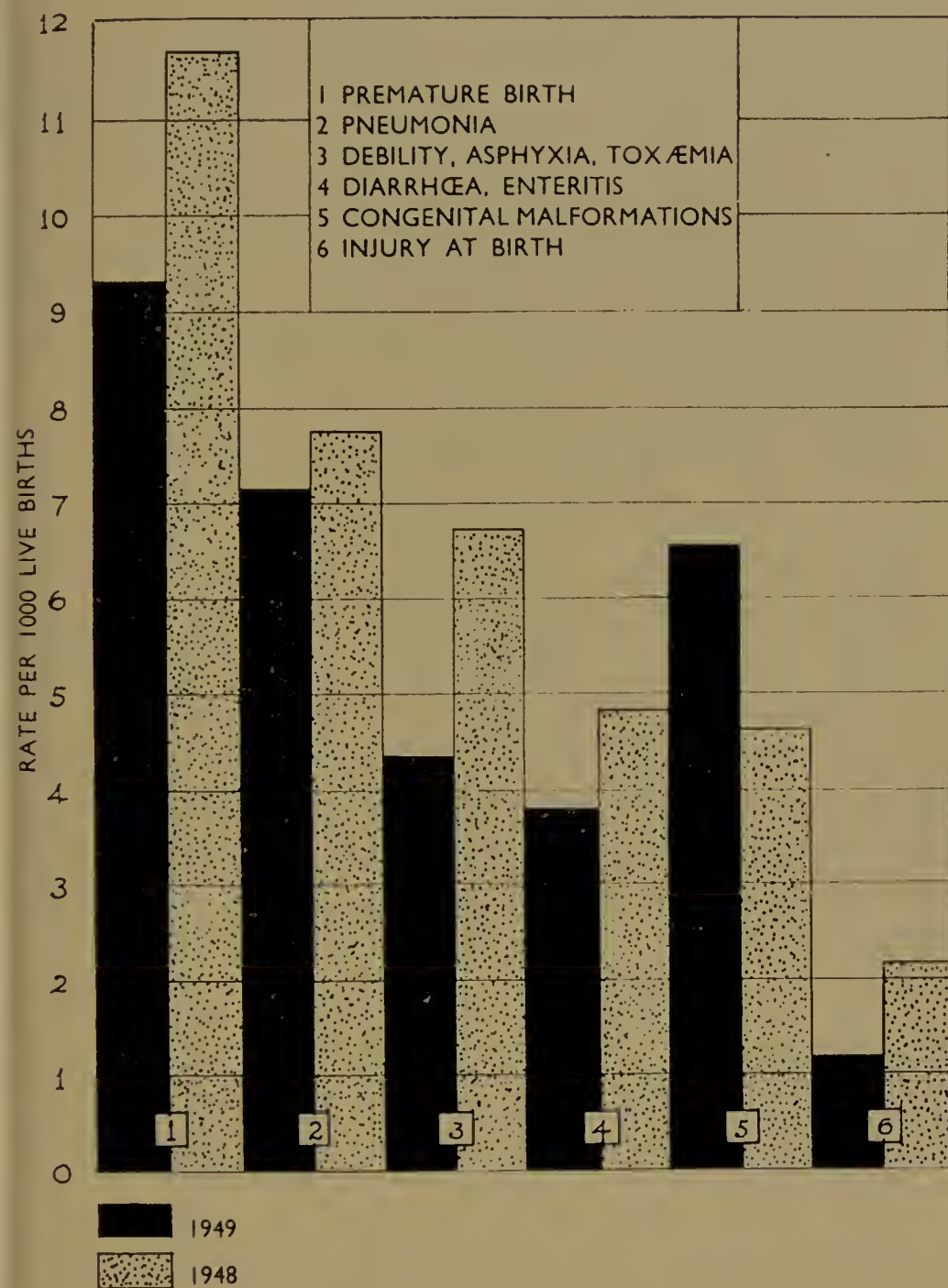
Fig. 12 compares the relative incidence of death due to certain causes for the years 1948 and 1949.

It is customary to refer to the deaths which occurred during the first four weeks after birth as Neo-natal Deaths and those occurring between the end of the first month and the end of the first year as Post-Natal Deaths.

It is interesting to note that while the Infantile Mortality rate has fallen consistently over the last fifty years, there has not been such a steep decline in the Neo-natal Mortality rate. In fact, between 1922 and 1940, there was very little change; the rate fluctuating between 34 and 41. The improvement has been effected in the Post-natal period. This is the period when the child comes under the influence of external circumstances. He comes into close contact with other and older children and is thereby exposed to infection—the main causes during this period being pneumonia, diarrhoea and enteritis and the like. With the improved control of infectious disease has come, as one would expect, a decrease in the deaths of infants from such causes during the Post-natal period.

Since 1941, however, there has been a slow but steady improvement in the Neo-natal Mortality rate, marred to some extent by slight increases in 1944, 1945, 1946 and 1947, when non-specific enteritis was endemic in St. Luke's Hospital Maternity Unit. The rate of 20·8 per thousand for 1949 is the lowest ever recorded in Bradford.

INFANTILE MORTALITY RATE FOR SPECIFIC CAUSES OF DEATH



BRADFORD, 1948 AND 1949

FIG. 12

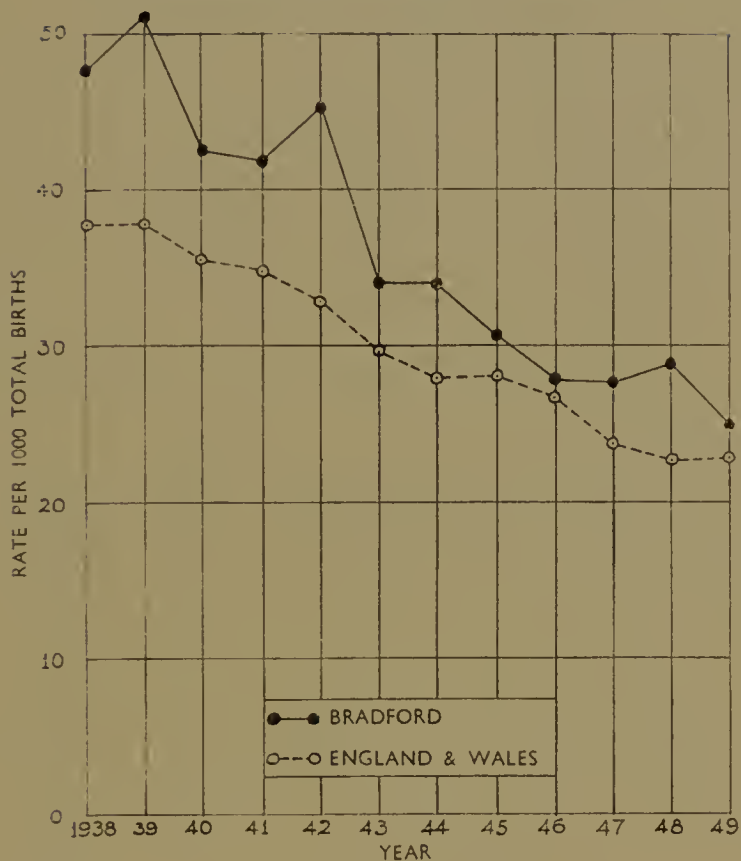
Stillbirths

The Still-birth rate has declined even more rapidly, from 48 in 1938 to 25 in 1949, and this striking improvement in the two rates is indicative, amongst other things, of a higher standard of obstetric care. Other factors have undoubtedly played a part. The nation is enjoying a period of full employment—more money is entering the home. An enlightened food policy is in force, which many regard as the principal factor in the improvement. It would seem that the general health of the mothers has been raised and that in this way they are better able to produce strong and healthier children.

There were 130 still-births; a rate of 25·7 per thousand total births. The rate for England and Wales was 23.

Fig. 15 demonstrates the pronounced improvement which has taken place since 1938. As might be expected, illegitimate children are more frequently still-born than the legitimate. Fig. 15 shows that while there has been a steady decrease in the still-birth rate per 1,000 total births (legitimate and illegitimate), the same decrease was not in evidence in respect of the illegitimate still-birth rate. In 1947, however, there was a big drop from 84 to 30 and in 1948 the rate was 28; very little different from the rate amongst the legitimately born.

STILL-BIRTHS RATES—BRADFORD AND ENGLAND AND WALES, 1938-1949



NEO-NATAL AND POST-NATAL MORTALITY RATES—BRADFORD, 1938-1949

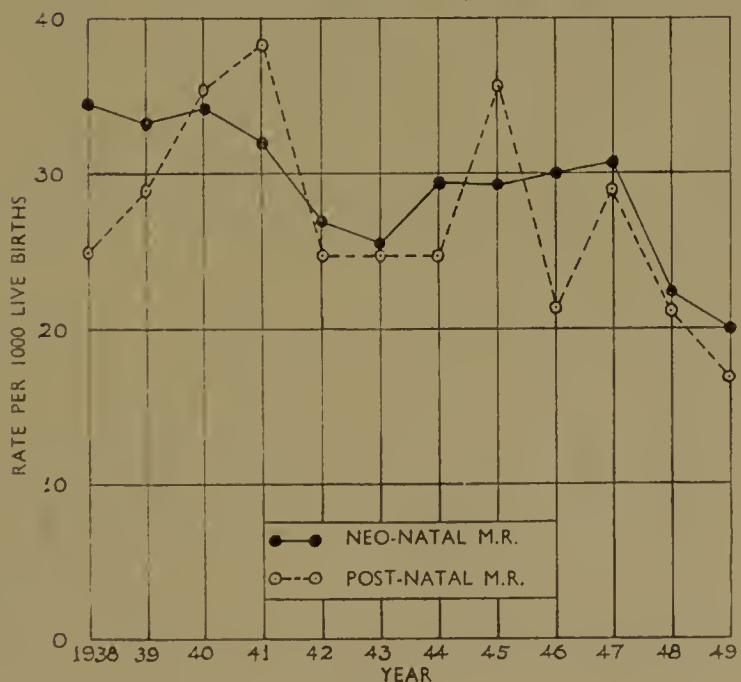


FIG. 13

STILL-BIRTH RATES—BRADFORD, 1938-1949

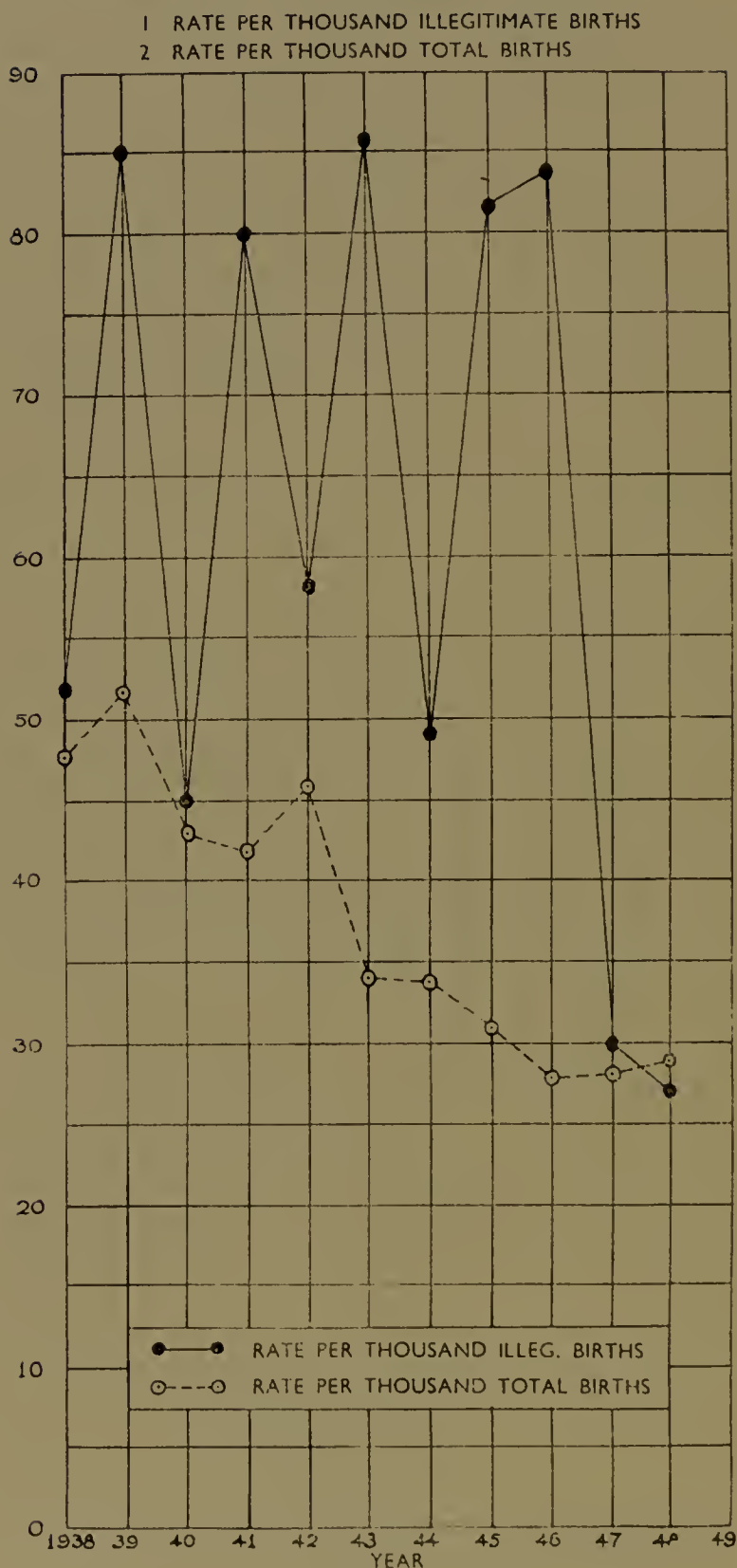


FIG. 14

Maternal Mortality

Table 14 illustrates the gratifying diminution that has taken place in the number of deaths due to childbirth. During the ten year period prior to 1936 the rate varied between 7 and 4 deaths per 1,000 total births; thereafter the rate slowly declined until 1946 when there was a sharp drop to 1.46. It fell still lower in 1947 to 1.07 and in 1948 to 0.88. In 1949 the rate increased to 1.35 per 1,000 total births.

TABLE 13 *Maternal Mortality Rates in Previous Years*

Year	BRADFORD			ENGLAND AND WALES		
	Puerperal Sepsis	Other Puerperal Causes	Total Puerperal Mortality	Puerperal Sepsis	Other Puerperal Causes	Total Puerperal Mortality
1936 ..	1.47	3.17	4.64	1.34	2.31	3.65
1937 ..	0.95	1.67	2.62	0.97	2.26	3.23
1938 ..	0.49	3.66	4.15	0.89	2.19	3.08
1939 ..	1.32	1.85	3.17	0.74	2.82	3.56
1940 ..	1.05	1.83	2.85	0.52	1.64	2.16
1941 ..	1.63	1.36	2.99	0.48	1.75	2.23
1942 ..	1.20	1.20	2.40	0.42	1.59	2.01
1943 ..	0.70	2.08	2.78	0.73	1.56	2.29
1944 ..	0.83	1.67	2.50	0.59	1.34	2.93
1945 ..	0.70	2.57	3.27	0.49	1.30	1.79
1946 ..	0.35	1.11	1.46	0.18	1.24	1.42
1947 ..	0.31	0.78	1.07	0.26	0.91	1.17
1948 ..	0.00	0.88	0.88	0.24	0.78	1.02
1949 ..	0.19	1.15	1.35	0.22	0.76	0.98

These deaths are classified in the following table, according to the age period of the mother, and the condition from which the deaths arose.

TABLE 14 *Deaths in Childbirth* *Age and Classified Cause*

Classified Cause	Age in Years						
	20	25	30	35	40	45	Total
Toxæmias	—	—	1	—	—	—	1
Septic Conditions ..	—	—	1	—	1	—	2
Ectopic Gestation ..	—	—	—	—	—	—	—
Hæmorrhage	—	—	—	1	1	—	2
Other Causes	—	2	—	—	—	—	2
Total	—	2	2	1	2	—	7

MATERNAL MORTALITY RATE—BRADFORD AND ENGLAND AND WALES, 1926-1949

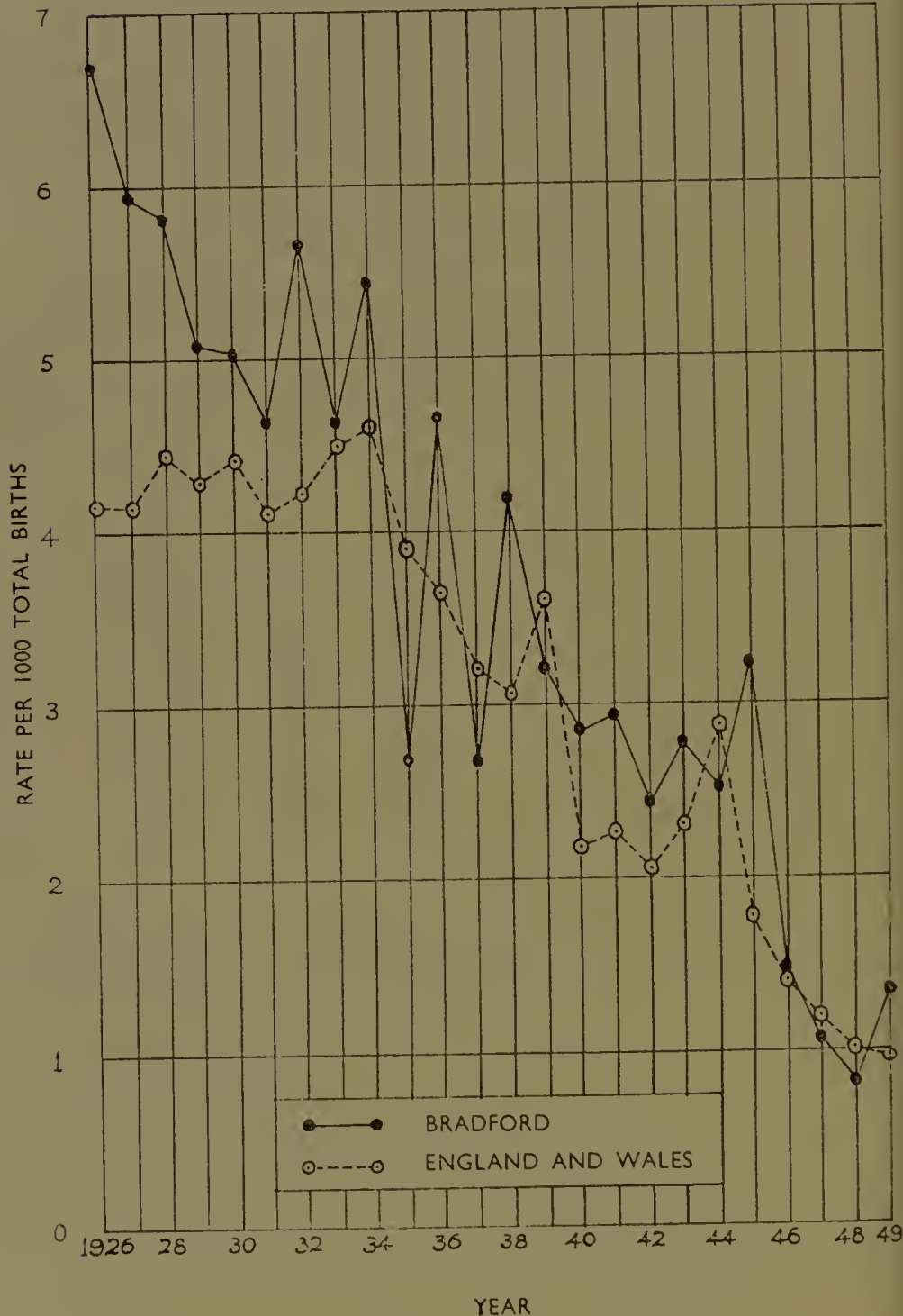


FIG. 15

Section 2

Prevalence and Control of Infectious Diseases

PRINCIPAL NOTIFIABLE DISEASES
ACUTE ANTERIOR POLIOMYELITIS
SALMONELLA INFECTIONS
FOOD POISONING
TUBERCULOSIS
VENEREAL DISEASES

Prevalence and Control of Infectious Diseases

The diseases "notifiable" in Bradford are: smallpox, cholera, diphtheria, membranous croup, erysipelas, scarlatina or scarlet fever, typhus fever, typhoid fever, enteric fever, relapsing fever, plague, cerebral spinal fever, acute poliomyelitis, acute polio-encephalitis, acute encephalitis lethargica, ophthalmia neonatorum, puerperal pyrexia, malaria, infective enteritis, dysentery, acute primary pneumonia, acute influenzal pneumonia, measles, whooping cough, tuberculosis. In addition, food poisoning is notifiable under Section 17 of the Food and Drugs Act, 1938.

The notifications of infectious diseases since 1929 are shown in the Appendix.

The 19 cases of diphtheria notified were all from one localised outbreak which occurred in January. There were 2 deaths. It is of note that no more cases of diphtheria occurred in the City throughout the remainder of the year.

The number of cases of measles was more than three times that of 1948, and there were 3 deaths, as against 2 in 1948.

Scarlet fever infections were slightly less than 1948, and the condition remained mild. A notable point is that there were only 347 cases of whooping cough, as against 1,404 in 1948. There was one death. It is too early to say to what this large reduction is due, but as will be seen later, a large number of children had been immunised against whooping cough in the early months of life.

There were 29 cases of anterior poliomyelitis with 7 deaths. This was somewhat in excess of the number in 1948, but much smaller than in the previous heaviest year, 1947.

Early in the year, several contacts of cases of smallpox arrived in the City from abroad, they were put under the necessary surveillance and fortunately no cases of the disease occurred.

There were 167 cases of infective enteritis notified with 19 deaths—in no case was a dysentery organism isolated. This is the first time in recent years that no dysentery cases have been reported in the City. *Salmonella* Infections were responsible for some of the cases.

There were 76 deaths from influenza, a number greatly in excess of the deaths from this cause in 1948.

There were 23 cases of puerperal pyrexia and one case of puerperal sepsis which was fatal. Once again there were no cases of anthrax notified in the City, which has been free from this disease since 1940. This probably reflects the changed source of supply of wool during and since the war.

Notifications of pulmonary tuberculosis again showed an increase—276 against 207 for 1948.

Diphtheria

Cases: 19. Deaths: 2.

All the cases of diphtheria which occurred were due to an outbreak in a nursery school. Effective action was immediately taken in the form of repeated swabbing of nose and throat of all the children in the nursery and the lower classes of the adjacent primary school, together with active and passive immunisation. Of the 19 cases with positive swabs 12 were clinical cases of the disease, and 7 were carriers. The source of the infection was never traced, but it seems probable that it was brought into the city, since diphtheria both in immunised and non-immunised children caused by *Coryne Diphtheria Gravis* has not been observed in Bradford since 1946. Cases occurred both in immunised and non-immunised, but the two fatal cases were non-immunised children, and although 52 per cent of the children in the Nursery were immunised, the organism gained a strong foothold. The first case occurred on the 15th January and last on 2nd February. It is satisfactory to note that swift administrative action both in the

isolation of infected children and in the immunisation of the susceptible brought the outbreak to a rapid conclusion, and no further cases of diphtheria either clinical or bacteriological, occurred during the remainder of the year.

TABLE 15 *Cases of Diphtheria Month by Month*

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Number of Cases ..	18	1	-	-	-	-	-	-	-	-	-	-

Scarlet Fever

Cases: 531. Deaths: 0.

TABLE 16 *Mortality Rate per 1,000 in Previous Years*

	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Bradford	0.04	0.03	0.03	0.03	0.07	0.06	0.08	0.02	0.00	0.00	0.00
England and Wales	0.05	1.16	1.25	0.05	0.03	0.02	0.02	0.01	0.01	0.00	

The number of cases of scarlet fever notified in 1949 was 234 less than in 1948. The disease continued to be mild and there were no deaths. The greatest number of cases occurred in Great Horton Ward where 44 cases were notified, and in North Bierley West and Little Horton, where 42 and 40 cases occurred respectively.

TABLE 17 *Cases of Scarlet Fever Month by Month*

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Number of Cases ..	31	40	35	20	39	22	51	25	25	69	60	110

Smallpox

No smallpox occurred during 1949, but several contacts from a ship which brought cases into the country were followed up daily until the end of the quarantine period. During this period adult cases of chickenpox were visited and examined.

Measles

Cases: 3,596. Deaths: 3.

There were 2,377 more cases of measles in 1949 than in 1948, i.e., about half as many again, but there were 3 deaths, as against 2 in the previous year.

Whooping Cough

Cases: 347. Deaths: 1.

There were 347 cases of whooping cough as against 1,404 in the previous year. There was only 1 death, giving the same case mortality as before.

Erysipelas

Cases: 101. Deaths: 1.

TABLE 18 *Record of Previous Years*

	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Cases	173	147	138	121	123	115	90	95	104	105	101
Deaths	3	2	4	4	1	2	1	4	1	0	1
Fatality per cent..	1.7	1.3	1.9	3.3	0.8	1.7	1.1	4.2	0.9	0.0	0.09

Ophthalmia Neonatorum

Cases: 16. Deaths: 0.

Of these 16 cases of ophthalmia neonatorum notified during the year there were no cases of any permanent visual disability remaining as a result.

Pemphigus Neonatorum

Cases: 9. Deaths: 0.

The 9 cases of pemphigus neonatorum notified during the year were of a mild character.

Enteric Fever

Cases: 0.

Once again there were no cases of enteric fever in the city during the year.

Anthrax

Cases: 0.

There were no cases of anthrax. A fact worthy of note in this city which is the centre of the wool trade.

Cerebral Spinal Meningitis

Cases: 12. Deaths: 3.

This is the smallest number of cases since 1939 when 6 cases occurred. The number rose to 67 in 1940, 72 in 1941, and 85 in 1942.

Pneumonia

Cases: 445. Deaths: 204.

There were 107 more cases than in 1948.

Infective Enteritis

Cases: 167. Deaths: 19.

There were 45 fewer cases of infective enteritis this year than in 1948. This term applies only to children under the age of one year and the 19 deaths from this cause are quite a fair proportion of the total infant deaths.

Salmonella Infection

Cases: 18. Deaths: 0.

During the year it has been the practice to follow up all cases notified to the department as infective enteritis, dysentery or food poisoning, and to obtain faeces specimens from the cases and their household contacts. This brought to light several salmonella infections, but in no case was it possible to discover the source of the infection. An attempt was also made during the year to determine the salmonella carrier rate in the population, by laying "sewer samples." Large swabs were left for a week in several sewers which deal with the excreta of about 15,000 population, and then sent to the Laboratory for examination. By this means, and by following a repeated positive back along the branches of the sewer then one persistent chronic carrier was discovered, i.e., one in 15,000 of the population. A description of the investigation which was conducted by the Deputy Medical Officer of Health, Dr. McDonagh will be found at the end of this section of the report.

Bacillary Dysentery

Cases: 0.

There were no cases of dysentery recorded during the year and there was a general diminution in the incidence of dysentery throughout the country. It is a remarkable fact that not a single case was notified in Bradford during 1949. There were 138 cases in 1948. The last year during which the city was completely free from the disease was 1929.

THE INCIDENCE OF POLIOMYELITIS—BRADFORD, 1947, 1948 AND 1949

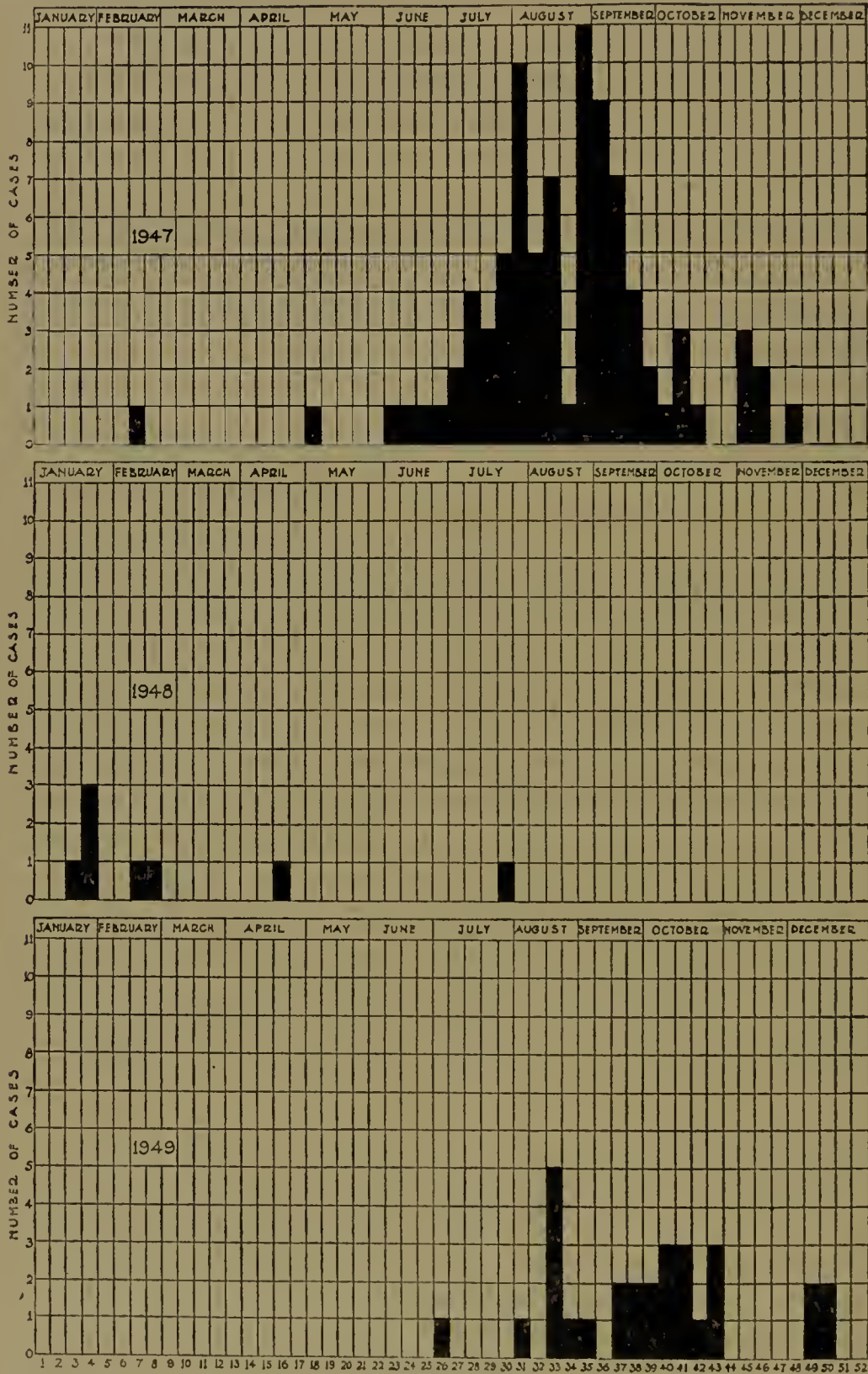


FIG. 16

Influenza

Deaths: 76.

TABLE 19 *Record of Previous Years*

	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Deaths	47	62	64	29	115	29	38	41	20	6	76

As the table shows 1949 has been the worst year since 1943.

Acute Anterior Poliomyelitis

Cases: 29. Deaths: 7.

During 1949 there were 29 cases of poliomyelitis as against 8 in 1948. It is worthy of note that the first case did not occur until the beginning of July, which meant that the City was free of the disease for a twelve month period. There were 7 deaths and of the other 22 cases, 2 remained severely paralysed, 8 suffered from mild disability and 11 had no disability whatever.

End Result	Deaths	Severe Disability	Mild Disability	No Disability
Total				
29	7	2	8	11

All trace was lost of one case who left the City without leaving a new address.

An analysis of the cases of poliomyelitis which occurred during the years, 1947, 1948 and 1949, has been prepared, showing the number of cases in the different wards of the city and the attack rate for each ward. The wards have been arranged in order of density of population and the full table is given in the appendix. From this table the following figures have been extracted, showing the relationship between the population density and the poliomyelitis attack rate. It will be observed that the attack rate is lowest in the most densely populated areas, increases with decreasing population density and falls again on the outskirts of the city where the population density is low and the chance of infection relatively less.

Number of Persons per Acre	Attack Rate per thousand of Population
1-10	0.37
11-20	0.48
21-30	0.50
31-41	0.34

This distribution of poliomyelitis which has been observed in other areas may be contrasted with the position for other infectious diseases which are usually most common to the area of greatest population density. It is believed that in poliomyelitis, the majority of people are infected with the virus at one time or another, but only a very small proportion of those infected develop symptoms. In the most densely populated areas this infection occurs very early in life and is usually symptomless; in less densely populated areas this infection may be delayed until later life when the chance of developing symptoms is greater.

Food Poisoning

Since the early days of the war the number of cases of food poisoning in the country has increased to a very great extent. In the main this is thought to be due to a change in the eating habits of the community promoted by war-time conditions; more people taking their food in restaurants and canteens than formerly. Thus infection in one of the food handlers or any faulty methods of preparation would tend to cause an outbreak of some size, whereas the same fault in a single household would cause only a small outbreak that might not come to the notice of the Department.

There was one large outbreak of food poisoning in the city during 1949 due to milk infected with salmonella newport. The first notification of the outbreak was received on the 20th May and by the 22nd it was clear that the infecting organism was a salmonella and that the vehicle was the milk from one farm. Instructions to arrange for the pasteurisation of this milk were accordingly given to the farmer. Pasteurisation commenced on the 23rd and was continued until the faeces of the farm workers no longer yielded salmonella newport (4th June). A detailed report of the outbreak is given below.

There were a further 27 cases notified later in the year. The organism implicated was salmonella newport, but the infection had been acquired from a meal consumed outside the city. Unsuccessful attempts were made to correlate this outbreak with the earlier one. Although it is

probable that there were minor outbreaks of food poisoning which did not come to the notice of the Health Department, it can be said that the city remained relatively free from untoward happenings in this respect. A survey of food premises described later in the report showed that while conditions were on the whole fairly good, there was still plenty of room for improvement. Efforts to improve the hygiene in such establishments have been made by Medical Officers and Sanitary Inspectors through lectures to Food Traders' Associations and Women's Organisations, and also by individual demonstrations by the Food Inspectors while on their visits of inspection.

TABLE 20 *Summary of Details, 1949*

(a)	Total number of outbreaks..	..	..	..	2
(b)	Number of cases	..	..	..	192
(c)	Number of Deaths	..	..	..	0
(d)	Organisms or other agents responsible, with number of outbreaks attributable to each:				
	Salmonella Newport	..	..	..	2
(e)	Foods involved, with number of outbreaks associated with each food:				
					Cases
(i)	Milk—1 outbreak	..	..	..	165
(ii)	Unknown—1 outbreak	..	..	..	27

A Report on a Milk-Borne Outbreak of Food Poisoning due to *Salmonella* Newport

V. P. McDONAGH, M.B., Ch.B., D.P.H., *Deputy Medical Officer of Health*

An outbreak of food poisoning occurred during May 1949 in a localised area of Bradford. It was quickly discovered that the outbreak was due to infected milk supplied by one farmer from his attested herd. The outbreak started on 13th May and during the next few days a number of people were taken ill. Some were notified by the attending Physician but, by means of a house to house inquiry a large number of other cases were brought to light. A total of 165 cases occurred, of which 20 were believed to be secondary to earlier cases in the same household.

The total number of people at risk, i.e., the number registered with the farmer was 1,284 made up of 1,031 adults and 253 children. Of the 253 children at risk, 81 were affected, whilst of the 1,031 adults at risk, only 84 were so affected. The dates of onset of primary and secondary cases are shown in table on page 51. As is usual in milk-borne outbreaks, the brunt of the infection fell on the children who are the chief consumers of raw milk in the household.

The great difference in the attack rate between adults and children may be explained in several ways:

1. Children consume larger quantities of raw milk and thus have a greater chance of becoming more heavily infected.
2. Children may be more susceptible to the organism than adults, due, perhaps to lack of previous exposure to infection.
3. Many adults may have been affected mildly and may not have considered that such a slight upset was worth mentioning. However, one must have some standard and the view was taken that if the person did not consider the indisposition worth reporting it might be disregarded.

Clinical Features

The onset to the disease was sudden with nausea, vomiting and pyrexia followed rapidly by diarrhoea. Blood and mucus were present

for a few days in the excreta of the more severe cases. However, most were mild, but some of the more severely affected were confined to bed for one week.

The incubation period appeared short but could not be accurately determined.

Conditions on the Farm

The 80 cows on the farm were milked by machine; only stripping being done by hand. The standard of hygiene in the handling of the milk was high and the degree of cleanliness of the apparatus was good. The results of samples of milk taken during the last three years and submitted for bacteriological examination have shown the milk to comply with the standard for "Tuberculin Tested" milk laid down by the Milk (Special Designations) Regulations, i.e., the milk to satisfy the methylene blue test and B.Coli to be absent from 0.1 c.c. The staff was made up of the farmer, his wife, his son and daughter and three labourers.

Measures to Control the Outbreak

The first notification of the outbreak was received on the evening of the 20th May and by the 22nd May it was clear that the infecting organism was a salmonella and that the vehicle was the milk from one farm. Instructions as to the pasteurisation were accordingly given to the farmer, who agreed without demur. Arrangements were made for the milk to be taken to the pasteurisation plant, and after treatment was distributed without any further contact with the farm. Pasteurisation was commenced on the 23rd and continued until 4th June when the faeces of five of the seven farm-workers no longer yielded salmonella newport. The farmer and one worker on the farm, who remained infectious on that date were given strict instructions to have nothing whatever to do with the milk production and bottling, and a close watch was kept by the Inspectors to make sure that these instructions were carried out. Shortly after, all the farm workers were declared free from infection, i.e., their faeces failed to yield salmonella

newport on two occasions at three day intervals. A few cases apparently of primary infection occurred after pasteurisation had commenced, but they were not examined bacteriologically and, in any case, may have been secondary to missed cases in the same household.

During the house to house inquiry special attention was given to the presence of any food handlers in any of the houses receiving the infected milk. Several food handlers were discovered and specimens of their faeces were examined bacteriologically. Several of these were found to be positive to salmonella newport. In some cases where the danger was great the carriers were held off work on the certificate of the Medical Officer of Health until he was satisfied that they were free from infection. They received National Health Insurance Benefit while off work and it is pleasing to report that their firms made up the remainder of their wages. It was impossible for some of the infected persons to stay off work without causing great inconvenience, and these were told not to handle foods and were given repeated instructions in personal hygiene. All the infected food handlers and the other members of their households were followed up until their faeces failed to yield salmonella newport on two occasions at three day intervals.

Bacteriological Investigations

Salmonella newport was isolated from all of the farm staff except one labourer. No history of any recent diarrhoeal illness could be elicited from any of them. However, it has been found very difficult in similar cases to obtain any admission of illness from the people most intimately concerned with the production of the milk. This may be due to a fear of possible repercussions. The investigations were carried out six days after the start of the outbreak and all the people concerned had consumed large quantities of the infected milk. Salmonella newport was isolated in 73 cases. Some of these were clinical cases and others were symptomless excretors.

On 11th May one of the cows on this farm was taken ill, but was milked as usual and on 17th May it was seen by a veterinary surgeon who diagnosed hæmorrhagic enteritis. At this time it was no longer

yielding milk. It was slaughtered at the abattoir on 18th May (two days before any cases were notified). The Meat Inspector reported that it was suffering from Johne's Disease and the carcass was distributed. It is possible that this cow was infected with salmonella newport and was excreting the organism into the milk. An attempt was made, with the co-operation of the Animal Health Division of the Ministry of Agriculture and Fisheries, and the Veterinary Investigation Officer to try and find other evidence of infection with salmonella newport in this herd. On 30th May rectal swabs were taken from all the cows and calves on the farm and examined for the presence of salmonella newport with negative results. In addition, a blood sample was obtained from every animal and examined for the presence of agglutinins by Dr. J. D. Blaxland of the Veterinary Laboratory of the Ministry of Agriculture and Fisheries. All sera were tested at dilutions between $\frac{1}{20}$ th and $\frac{1}{250}$ th with the three antigens of salmonella newport. Excluding reactions at the dilutions of $\frac{1}{20}$ th, positive findings were obtained from one cow and from six of the nine calves. All of these animals gave with either salmonella newport "H" specific, or newport "H" non-specific, a titre of $\frac{1}{250}$ th. The findings in the calves are of interest, since they were all receiving large amounts of the suspect milk and none of them suffered from any obvious infection. Another attempt was made by examining faeces from all the animals with significant titres, but again with negative results. Further attempts have been made to assess the significance of a titre of $\frac{1}{250}$ th for the antigens of salmonella newport. So far, 94 sera from adult cows have been examined and in no case has a titre of this magnitude been encountered.

Discussion

It has been shown that 165 cases of food poisoning occurred in Bradford as a result of the infection of "Tuberculin Tested" Milk with salmonella newport. Two possibilities for the source of infection must be considered. The most likely possibility is that one of the workers had suffered from a recent infection with salmonella newport and had contaminated the milk on a number of occasions. Investigations,

while not demonstrating any obvious illness among the farm workers, showed them all to be infected. However, by this time they had all consumed large quantities of the infected milk which would be quite sufficient to explain their infectivity. Further, the high standard of hygiene at the farm, while it would not absolutely preclude the spread of infection, from the human source, might be expected to decrease the chances of such a large outbreak.

The other possibility is that the infection arose from the cow that was slaughtered on the 18th May. Further investigations of the numbers and severity of the cases arising, pointed to the heaviest infection of the milk being on 15th and 16th May. This was about the time when the sick animal was deteriorating rapidly and at the same time providing milk which was bulked with that of the rest of the herd. It is now becoming more and more obvious that cows can act as a reservoir of infection of the salmonellæ. "Field" (*Veterinary Record*, 5th March, No. 10, Vol. VI) has shown that salmonella dublin and typhi-murium are frequently present in both the milk and fæces of cows. That the calves had had a comparatively recent infection without any obvious upset can be taken to imply that salmonella newport was of only low infectivity to cows; some other unknown factor must have been necessary to produce the septicæmic infection which is thought to have been responsible for the illness of the cow slaughtered on 18th May. It does not appear either, that the calves remained carriers of salmonella newport for any appreciable time. It is possible that as more investigations are conducted we shall find that cows may harbour other of the more uncommon salmonellæ.

It seems probable that the salmonella infection of the milk arose from an infected cow. The seriological evidence suggests that cows will develop agglutinins in response to exposure to salmonella newport, and that one other cow and six calves in the herd had been infected.

TABLE 21

Date of Onset (May)	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd—26th	27th—31st
Primary Adults ..	1	8	16	12	12	3	4	8	3	5	1 73
Primary Children ..	1	6	23	16	8	4	4	3	2	4	71
Total Primary ..	2	14	39	28	20	7	8	11	5	9	1 144
Secondary Adult ..	—	—	—	—	—	2	1	—	2	5	10
Secondary Children ..	—	—	1	—	1	2	2	—	1	2	1 16
Total Secondary ..	—	—	1	—	1	4	3	—	3	7	1 20
Grand Total of Cases ..	2	14	40	28	21	11	11	11	8	16	2 164

Report on an Investigation to Trace the Source of Salmonellæ in a Sewer

V. P. M. McDONAGH, *Deputy Medical Officer of Health*

This investigation was undertaken partly to find out what proportion of the population were salmonella carriers and partly to determine how feasible this method of investigation would prove in tracing chronic carriers of salmonellæ and para-typhoid organisms.

Three large drainage areas in the City were surveyed and eventually one sewer dealing with a population of 15,000 was chosen for the investigation. The method employed was to place a large swab in the sewer and leave it for one week. When the swab was taken out a second one was placed at the same point. When a particular organism was discovered the intention was to trace it as far as possible up the sewer. The third swab to be examined from the manhole in the diagram produced a growth of salmonella stanley. The next three successive swabs from this manhole proved to be negative, but the 7th swab was reported as yielding a growth of both salmonella stanley and salmonella typhi-murium. The latter was not again identified but as will be shown salmonella stanley was eventually traced to its source. To accomplish this swabs were placed systematically week by week in the manholes numbered 1 to 11 in the attached diagram.

Eventually it was established that the person excreting the organism was living in one of the 34 houses encircled in the diagram. These 34 houses were at the head of the particular sewer and the manhole gave 11 weekly positive results. At this stage began the systematic swabbing of the house drains—a difficult task because in the majority of cases there was no direct access to the drain or sewer. This difficulty was overcome by introducing the swabs to the house drains via the gulley-traps and floating them down attached to a length of twine to a point in the drain beyond the junction of the soil drain. Moving roughly in a circular pattern amongst the 34 houses the house from which the organism came was eventually located.

DIAGRAMMATIC REPRESENTATION OF SEWER INVESTIGATION

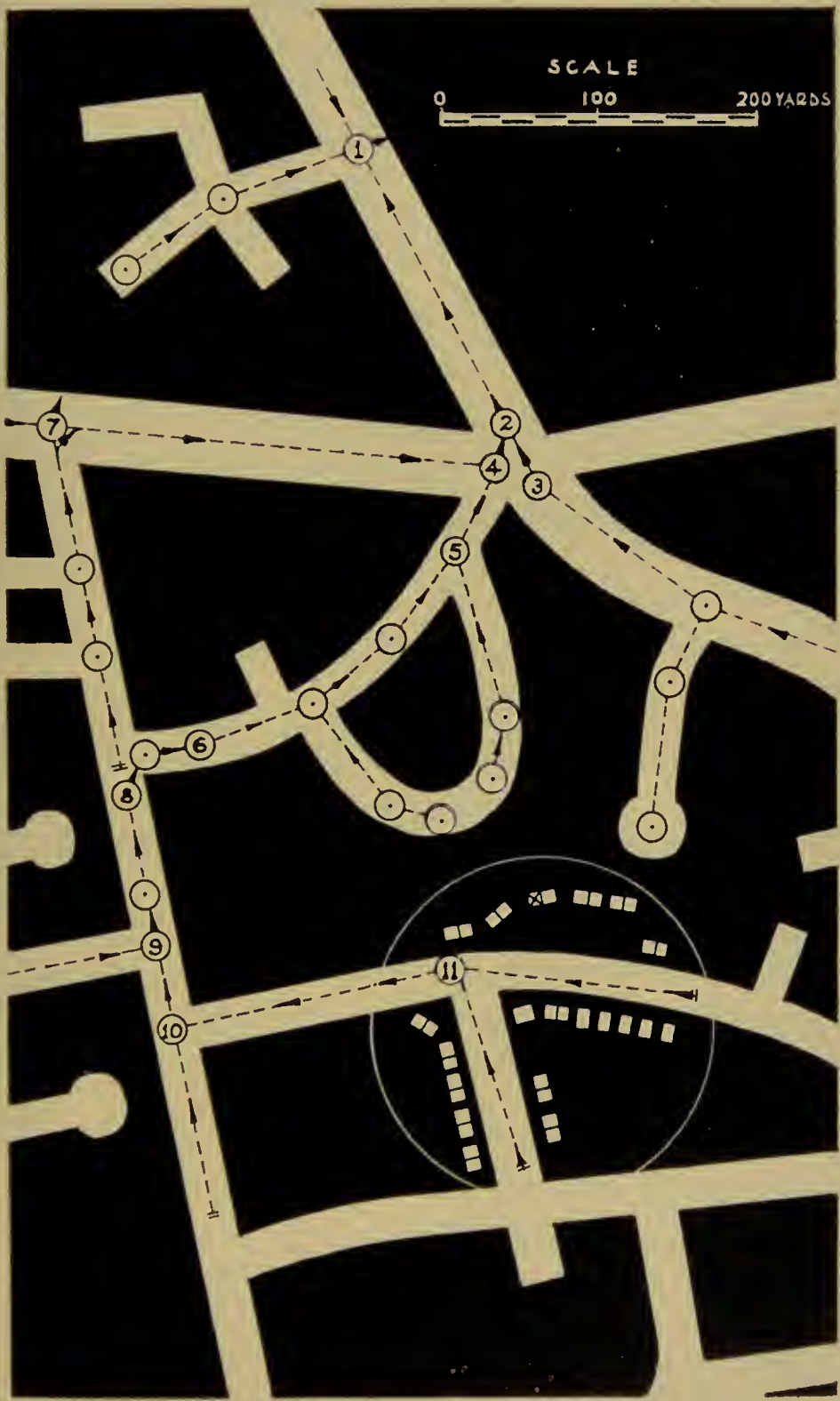


FIG. 17

In the course of this investigation which took about a year, approximately 119 swabs were taken from the sewers and drains and were examined at the Public Health Bacteriological Laboratory, Edmund Street.

I have to acknowledge with thanks the help I received in conducting the above investigations from Dr. Tomlinson of the Public Health Laboratory and Mr. F. Myers, Chief Sanitary Inspector and his staff.

Tuberculosis

H. VALLOW, M.D., D.P.H., Consultant in Chest Diseases

The Bradford Chest Clinic is open for general consultation on eleven sessions a week, one being held in the evening for workers, and another kept specially apart for children.

The actual number of attendances during the year 1949 was 10,964, an increase of 1,558, of which 1,221 were new cases; in addition 10,500 men and women attended the Mass Radiography Unit for X-ray examination.

Cases diagnosed as definitely tuberculous are shown in the following tables:

		Adults		Children		Total	
		Male	Female	Male	Female	Male	Female
(a)	Respiratory Tuberculosis ..	138	115	15	15	153	130
(b)	Non-Respiratory Tuberculosis ..	11	11	6	4	17	15
Totals ..		149	126	21	19	170	145

Compared with the definite cases discovered in the previous year there is an increase in the number of adult females suffering from respiratory tuberculosis and a small decrease in the number of adult males.

Cases crossed off the register during the year are shown in the following table:

CASES CROSSED OFF THE REGISTER DURING THE YEAR													
		Respiratory				Non-Respiratory				Totals			
		Adults		Children		Adults		Children		Adults		Children	
		M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
(a)	Recovered ..	7	5	1	2	—	—	3	6	7	5	4	8
(b)	Died ..	56	41	1	1	1	—	—	—	57	41	1	1
(c)	Removed to other Areas	10	6	—	—	—	—	2	1	10	6	2	1
(d)	For other reasons ..	21	12	4	2	2	3	5	1	23	15	9	3

The number of persons on the Chest Clinic Register on 31st December, 1949 is shown in the following table:

Respiratory Cases				Non-Respiratory Cases				Total			
Adults		Children		Adults		Children		Adults		Children	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
554	361	40	49	43	48	34	33	597	409	74	82

The General Health Visitors paid 908 primary visits, and the Tuberculosis Visitors paid 2,151 subsequent visits for Chest Clinic purposes; this is an increase of 1,516 visits.

2,073 specimens of sputum were examined, and 2,094 X-ray examinations carried out.

Examinations have been carried out for the Ministry of Pensions the National Service Medical Board, the Ministry of Labour, the Ministry of Health, and the Pneumoconiosis Medical Panel (Ministry of National Insurance).

Welfare of the Tuberculous

Care and After-Care

Cases of Tuberculosis eligible for tuberculosis treatment allowances have been referred to the National Assistance Board. Help is given at the Chest Clinic in claiming these and a close co-operation maintained with the Board and necessary medical evidence supplied.

Extra nourishment has been given on the advice of the Chest Physicians.

Recommendations for suitable work and for training have been made to the Ministry of Labour and individual cases discussed with the resettlement officer who pays routine visits to the Clinic.

Close liaison has been maintained with the hospital almoners in all matters affecting the welfare of the tuberculous and with the various charitable organisations.

Applications for houses have been considered and points assessed on medical grounds giving individual attention to each case after consideration of clinical history.

	No. of Cases
Housing Points assessed ..	113
Priority Certificates Issued ..	756
Forms D.P.I.X. (Ministry of Labour) completed ..	35
Treatment Allowances and Interviews re general welfare..	324

Thoracic Surgery

Major thoracic surgery has been carried out at the Pinderfields Hospital, Wakefield; artificial pneumothorax treatment at The Hospital, Grassington and at the Chest Clinic.

Mass Radiography 1949

Number of X-rays taken	10,500
Cases of respiratory tuberculosis found which were considered active and requiring treatment ..	17
Chest conditions found requiring observations:	
Tuberculous	51
Non-tuberculous	15
Abnormality found but no action required ..	77
Cases of non-tuberculous disease found and referred to a Doctor	43

Towards the end of the year instructions were received from the Leeds Regional Hospital Board to organise a Sub-Regional Admission Bureau for the admission of sanatorium patients for the whole of the West Zone of Yorkshire; advance information was received regarding the Government's intentions for the test trials of the use of B.C.G. immunisation.

Venereal Diseases

I am indebted to Dr. Charles Heywood, Consultant Venereologist for the following report:

The Venereal Diseases Treatment Centre at St. Luke's Hospital continues to be housed in a wooden army-hut of 1918. This has for long been condemned as unsatisfactory on the grounds of deficient accommodation, lack of amenities, and its discouraging effects upon patients. In particular there is a regrettable absence of privacy between doctor and patient (much improved in the Female Clinic in the course of the year), and the accommodation for social and administrative work is inadequate. Plans for re-housing the treatment centre prepared

in 1939 have not yet been implemented because of the war and post-war economic situation, but the urgency of the problem does not increase. Nevertheless, within its structural limitations, the centre is well equipped and staffed to carry out the diagnosis and treatment of venereal diseases and is being continually improved.

The statistics for 1949 show a further decline in the incidence of new infectious attendances; although the decrease is not so great as in the two previous years, the incidence is now only half of that in the peak year 1946, and compares favourably with pre-war figures. This is a reflection both of the greater efficiency of present-day methods of treatment, and of the increasing public awareness of the possible dangers of these diseases brought about by the intensive propaganda campaign of recent years. The effect of this propaganda is shown also by the increase in the proportion of non-venereal cases now presenting themselves for examination, amounting to more than half of the new admissions for the year.

That the incidence of new infections was not still lower in 1949 was due to two new factors:—(1) the introduction into the area of about 5,000 European volunteer workers, in whom the incidence of venereal disease is much higher than in the native population, so that about one sixth of all new registrations were attributable to this source, and (2) the increase in the number of late cases of syphilis referred to the centre for treatment, so that the average age of patients attending has risen to about 50 years.

The number of new cases and the attendances for the area of the City of Bradford during the past 20 years are shown in the table following:—

Analysis of the Cases admitted and discharged during the year in detail

(a) ADMISSIONS

1. Number of cases under treatment or observation on 1st January, 1949				Males	Females	Total
Suffering from Syphilis	..	..	..	309	374	683
Suffering from Gonorrhoea	..	..	..	39	18	57
Suffering from other conditions	..	..	..	55	23	78
Totals	..	..	..	403	415	818

2.	Number of cases defaulting during previous years which returned in 1949:					Males	Females	Total
	Suffering from Syphilis	..	..	..	..	29	22	51
	Suffering from Gonorrhoea	..	..	..	..	12	4	16
	Totals	..	..	..	..	41	26	67
3.	Number of new cases dealt with for the first time during 1949, suffering from:							
	Early (infections) acquired syphilis	..	..	..	..	40	49	89
	Late acquired syphilis	..	..	..	..	35	30	65
	Congenital syphilis	..	..	..	..	8	8	16
	Gonorrhoea	..	..	..	..	121	53	174
	Chancroid	..	..	..	..	3	1	4
	Non-venereal conditions	..	..	..	..	395	131	526
	Totals	..	..	..	..	602	272	874
4.	Number of cases transferred from other treatment centres, suffering from							
	Syphilis	..	..	..	..	34	13	47
	Gonorrhoea	..	..	..	..	14	5	19
	Other conditions	..	..	..	..	2	1	3
	Totals	..	..	..	..	50	19	69
	Total of items 1, 2, 3 and 4	..	..	..	..	1096	732	1828

(b) DISCHARGES

5.	Number of cases discharged after completion of treatment and surveillance, suffering from							
	Syphilis	..	..	..	..	190	139	329
	Gonorrhoea	..	..	..	..	120	55	175
	Other conditions	..	..	..	..	399	138	537
	Totals	..	..	..	..	709	332	1041
6.	Number of cases defaulting before completion of treatment or observation, suffering from							
	Syphilis	..	..	..	..	41	70	111
	Gonorrhoea	..	..	..	..	19	6	25
	Totals	..	..	..	..	60	76	136
7.	Number of cases under treatment or observation known to have died during 1949					—	—	—
8.	Number of cases transferred to other treatment centres, suffering from:							
	Syphilis	..	..	..	..	25	10	35
	Gonorrhoea	..	..	..	..	19	5	24
	Other conditions	..	..	..	..	9	—	9
	Totals	..	..	..	..	53	15	68
9.	Number of cases remaining under treatment or observation on 31st December, 1949, suffering from							
	Syphilis	..	..	..	..	199	277	476
	Gonorrhoea	..	..	..	..	28	14	42
	Other conditions	..	..	..	..	47	18	65
	Totals	..	..	..	..	274	309	583
	Totals of items 5, 6, 7, 8 and 9	..	..	..	..	1096	732	1828

The number of attendances distributed according to disease was as follows:

			Attendances		
Patients suffering from Syphilis			4233	4661	8894
Gonorrhoea			1175	356	1531
Other conditions			2549	630	3179
Totals			7957	5647	1,3604

The geographical distribution of new cases during the year is shown in the following table:

Area	Syphilis	Gonorrhoea	Other conditions
Bradford	130	144	427
West Riding County Council ..	36	26	91
Colne	1	—	1
Dewsbury	—	—	1
Halifax	1	1	—
Huddersfield	—	—	2
Leeds	—	1	3
Service	2	2	5

An adequate number of beds is provided at St. Luke's Hospital for in-patient treatment of venereal disease where necessary. Pathological examinations for the diagnosis and surveillance of venereal diseases are carried out both at the Treatment Centre and at the Public Health Laboratory, Edmund Street, as shown below:

Pathological Examinations, 1949

	Treatment Centre	Public Health Laboratory
Microscopical examinations for syphilis	118	—
Microscopical examinations for gonorrhoea	2069	—
Cultural examinations for gonorrhoea	—	1185
Blood tests for syphilis	—	3925
Blood tests for gonorrhoea	—	1
Cerebro-spinal fluid examinations	—	456
Others	20	2

Early in the year we were fortunate to obtain from the United States a small supply of a new purified cardiolipin antigen for the performance of blood tests for syphilis, which was under investigation during the remainder of the year. The constant cross-checking between clinic and laboratory necessary to control the new test has entailed some additional work, more than justified by the promising results obtained so far.

Defaulters continue to provide a serious problem. These patients discontinue attendance at the treatment centre before the certainty of cure has been established, and it is likely that many of them suffer infectious relapse and become again a danger to the health of the community; many of these inadequately treated patients develop in later years killing or crippling complications of their disease, to become the prematurely sick and infirm cases overflowing the chronic hospital beds. Of the 1221 cases of venereal disease dealt with during the year, 136 defaulted before the completion of surveillance (slightly more than 11 per cent). So rapid are present-day treatment schedules however, that only 19 of these defaulters were lost before completion of their treatment, and there is reasonable hope that the remaining 117 have been rendered permanently non-infectious if not cured (so far as their present infection is concerned).

Section 3

National Health Service Act, 1948

CARE OF MOTHERS AND YOUNG CHILDREN

MIDWIFERY

DENTAL CARE

HEALTH VISITORS

HOME NURSING

VACCINATION AND
IMMUNISATION

PREVENTION OF ILLNESS, AFTER
CARE

DOMESTIC HELP

MENTAL HEALTH SERVICE

CARE OF THE ELDERLY

HEALTH EDUCATION

National Health Service Act 1946

Care of Mothers and Young Children

H. M. GALL, M.B., Ch.B.,

Senior Assistant Medical Officer of Health for Maternity and Child Welfare

In general the work of the care of young children, expectant mothers and nursing mothers has gone on as usual, and there has been little expansion of the service. There was, however, some reduction in the number of children attending the Welfare Centres and a corresponding slight decrease in the total number of attendances.

The work of the Health Visitors has widened in scope in that they have undertaken more and more the visitation and care of the sick, disabled and aged. Obviously as there has been no great increase in the number of Health Visitors, this has meant that there has been a consequent diminution of time spent on the care of mothers and young children. It must be pointed out that under the National Health Service Act, the duties of the Health Visitor have been extended from being mainly responsible for mothers and young children up to 5, to now being responsible for the whole life cycle, from birth and before, on through the years to old age and death.

The Nurseries have been well filled and owing to the demand for women in Factories there are large waiting lists for admission. The work of conversion of a large house (Thornlea, Clayton) into a day nursery has started, and the nursery will be ready for occupation in 1950. There are also projects for three new nurseries to be built, but work had not commenced before the end of the year under review.

A complete Clinic Centre is proposed for East Bowling and the surrounding districts. This will be established in premises at Usher Street, lately used by the Welfare Committee. It will include an Ante-Natal and Child Welfare Clinic, and a residence for District Midwives.

At present nearly all branch clinics are held in premises rented for one or two sessions per week, and as will be realised these premises are not always as well equipped as would be desirable. Especially is this so when they are to be used as Ante-Natal Clinics.

Ante-Natal Clinics

In April 1949, the primary examination of patients desiring to be confined in hospital ceased to take place at the Central Ante-Natal Clinic, and was undertaken by the obstetric staff at St. Luke's Hospital. This considerably reduced the attendances at the district Ante-Natal Clinics, and patients were in consequence examined in greater comfort and with less delay. Six sessions weekly are held at the Central Clinic and three at District Clinics. One session at the Central Clinic is devoted to Post-Natal examinations. Times are as follows:

Central Clinic

Monday, Tuesday, Wednesday, Thursday and Friday mornings: 9 to 11 a.m.
Tuesday afternoon: 1.30 to 3.30 p.m.

Ante-Natal patients are also seen at the following branch clinics during the ordinary Child Welfare session:

Southend Hall—Thursday afternoon: 1.30 to 3.30 p.m.
Idle—Friday afternoon: 1.30 to 3.30 p.m.
Bierley—Wednesday morning: 9 to 11 a.m.

					New Cases	Total Attendance
Ante-Natal	..	..	..	..	1,578	4,358
Post-Natal	..	..	..	..	72	107

After the preliminary examination at St. Luke's Hospital those patients who are to be admitted to hospital return and attend for subsequent ante-natal examinations either at the Central Clinic or one of the branch clinics, unless there is some medical reason why they

should continue to attend the hospital clinic. Some women apply for a bed in hospital not on medical grounds, but because of the unsatisfactory conditions under which they are living. In these cases a visit is made by the health visitor who reports to the hospital on the suitability of the dwelling for a confinement at home. These visits have shown under what overcrowded conditions many young married couples are living and in many cases it has been very difficult to decide between one mother and another. However, in the main one can say that we have been able to arrange that the worst cases obtained their delivery in hospital. The Ante-Natal supervision of women who were to be admitted on social grounds was carried out either by their own private doctor or at one or other of the clinics available for that purpose. Every mother who attends for ante-natal examination has a W.R. examination of her blood which is also examined for Rh antibodies and hæmoglobin content.

Child Welfare Clinics

Attendances have been fewer during 1949 than in the previous year. The number of infants attending for the first time was 3,621 representing approximately 69 per cent of the total births as against 76 per cent in the previous year. One hundred and fifteen sessions per month were held at 16 centres.

No. of children attending equals	..	..	9,298
First Attendances:			
Under 1 year of age..	..	..	3,621
Over 1 year of age ..	..	..	158
			———— 3,779
Total attendances of:			
Infants under 1 year	..	..	56,345
Children over 1 year	..	..	16,141
			———— 72,486

A petition from West Bowling for a clinic in that area was favourably considered by the City Council and a new branch will shortly be opened at Muff Field Chapel.

Child Welfare Clinics in Bradford

Clinic	Days of Attendance			Time of Attendance	Attendances during year
Central, Edmund Street	Daily	..	..	Morning and Afternoon	23,577
Southend Hall	Thursday	..	..	Afternoon	2,286
Green Lane	Monday and Thursday			Afternoon	6,694
Otley Road	Wednesday	..	..	Morning and Afternoon	6,462
Brownroyd	Tuesday	..	..	Morning and Afternoon	6,156
Great Horton	Monday	..	..	Morning	2,877
Wakefield Road	Alternate Wednesdays			Afternoon	1,330
Low Moor	Tuesday	..	..	Afternoon	4,854
Lapage Street	Monday and Thursday			Afternoon	5,648
Idle	Friday..	..	..	Afternoon	2,836
Ravenscliffe	Friday..	..	..	Afternoon	2,939
Clayton	Alternate Wednesdays			Afternoon	1,326
Bierley	Thursday	..	..	Afternoon	2,238
Esholt	Wednesdays monthly			Afternoon	234
Nursing Mothers' Ward	Monday, Tuesday, Wednesday and Friday	..	..	Morning and Afternoon	913
Daisy Hill	Alternate Mondays	..		Morning	1,968
Lidget Green	Alternate Thursday	..		Morning	1,557
(Opened 29th April, 1948)					

Premature Babies

During the year special efforts were made in Hospitals and Homes to care for prematurely born infants. Among these infants are included infants born at home, but who because of factors influencing development in the ante-natal period, are under the normal average birth weight. During the year 314 such babies were notified. This, however, does not give a true picture of the premature birth rate for the City. To appreciate the wastage of infant life due to prematurity there must be included premature infants who were stillborn.

These babies are the special care of the midwife and health visitor. In the lying-in period necessary nursing equipment is loaned to the home and the midwife pays many extra visits. The case is also visited by the Superintendent Midwife during the first fortnight and later the Health Visitor pays weekly visits. If the infants are very premature and are very delicate they are transferred to hospital, and for this special equipment is available as the transfer itself is not without danger to the child. Under good home conditions the average infant

of 7½ to 8 months gestation does very well, if special precautions are taken to keep the child in an even temperature and protect him or her from infection.

Premature Infants born Alive

<i>Number of premature babies</i>	..	..	..	314
Number born in Institutions	..	..	..	209
Number born at home	..	..	..	105
<i>Number who died within 24 hours</i>	..	..	..	34
Institution..	..	..	..	27
Home	..	..	..	7
<i>Number who died 2 –28 days</i>	..	..	..	18
Institution..	..	..	..	15
Home	..	..	..	3
<i>Number who survived 1 month</i>	..	..	..	262
<i>Number who died after 1 month, up to the end of 1948</i>	..	..	..	1

Care of Unmarried Mothers and Their Children

A home for the care of illegitimate babies and their mothers is provided by the Bradford Diocesan Council at St. Monica's Home, Belle Vue, Bradford, and the grant which has been made to the Diocesan Council by this Council for many years, in respect of the services provided at this Home has been increased. A grant is also made to the Bradford Branch of the Leeds Diocesan Welfare Society in respect of Bradford unmarried mothers and their babies who are cared for at St. Margaret's Home of the Society in Leeds. Work on the proposed Hostel for unmarried mothers in Oak Avenue is in progress, and it is hoped the Hostel will be ready for use in 1950. This Hostel will be of great help to these unfortunate girls after they have recovered from their confinement and return to work. Special visits were paid by Health Visitors to unmarried mothers and their babies, and priority was given for the admission of the children to day nurseries, where this was necessary.

Bradford Maternity Care Committee

The Bradford Maternity Care Committee came into being during the first world war and formed Mothers' Clubs to carry out educational

and social work among the mothers attending the Maternity and Child Welfare Department. Whenever possible, these Mothers' Clubs are held on the same premises and at the same day as the branch clinics, and close co-operation is observed between the two. The work carried out at the Club is mainly sewing, cookery, toy making and crafts suitable for home making. Clubs are held at Lilycroft, Wakefield Road, Otley Road, Manningham and Girdlington, and it is hoped to extend the work to more districts when rooms are available. During the work of these Clubs the great need became apparent for convalescent and holiday treatment for the mothers and young children who attended the Centres, many of whom never had a break of any sort from one year to another. The Committee first obtained two cottages in Addingham, and there created a small convalescent home for mothers and children. When the Silver Jubilee of King George V and Queen Mary took place, the Bradford Corporation decided to celebrate this event by purchasing a home at the seaside, and giving a grant towards its upkeep. The administration of this home was handed over to the Maternity Care Committee. Premises were secured at Heysham, and this Silver Jubilee Home, as it is called, is now working to full capacity and many mothers and young children have been restored to health through its beneficent work.

Day Nurseries

There are seven Municipal Day Nurseries in the City which are well attended and there is a large waiting list, as many women who wish to work cannot do so until their children are admitted to the nurseries.

List of Nurseries

Name	Age of Children	Places	Yearly Attendances
Swain House Day Nursery	0-5	30	13,375
Canterbury Avenue Day Nursery	0-5	40	15,348
Bierley Day Nursery	0-5	40	16,345
Thornbury Day Nursery	0-5	40	17,466
Greaves Street Day Nursery	2-5	30	11,605
Princeville Day Nursery	2-5	40	14,814
Farcliffe Nursery	0-5	66	27,737

Priority is given to children whose mothers must work, e.g., to illegitimate children who are always particularly in need of care; to the children of widows and the children whose fathers are incapacitated from any cause.

The nurseries are regularly visited by a doctor from the staff of the Maternity and Child Welfare Department. There are also six industrial nurseries in the City, at four of which at the request of the directors regular clinics are held. Every effort is made to ensure that the children attending nurseries and requiring medical or specialist treatment receive this.

In conjunction with the Education Committee the Health Committee undertake the training of students for the examination of the Nursery Nurses Examination Board. The course lasts for two years and the intention is to limit the number of new pupils to 20 annually. During their two years practical training the pupils spend one year in Health Department nurseries and receive theoretical instruction on two days weekly. Of the 21 pupils who completed training during 1949, 18 were successful in passing the examination.

Domiciliary Midwifery

The supervision of all midwives in the City apart from those practising in hospital is undertaken by a non-Medical Supervisor under the direction of the Senior Assistant Medical Officer for Maternity and Child Welfare.

The Municipal Midwives are seen at least once a week and the midwives in private practice are also inspected at regular intervals. In accordance with the provisions of the Nursing Homes Registration Act, 1927, Maternity Homes have been inspected regularly throughout the year. During the year 69 midwives notified their intention of practising in the City as follows:

	Notification of Int. to Practice	Cases Attended as	
		Midwife	Mat. Nurse
Municipal Midwives	36	1,918	320
Midwives in Private Practice . .	2	3	1
Midwives in Nursing Homes . .	5	179	376
Midwives in Hospital	26	2,157	284
	69		

The establishment is 37 midwives and one non-Medical Supervisor.
The number of midwives on the staff at 1st January 1949, was 35.

One midwife retired on reaching pensionable age.

Three midwives left for other reasons.

Five new midwives were appointed.

Vacancies on the staff at 31st December 1949, was 2.

(One midwife retired on the 31st December.)

Of the five new appointments three were made from pupils trained in the Bradford Midwifery Training School. In April 1949, the non-Medical Supervisor retired because of ill-health and a new Supervisor was appointed.

The work of the domiciliary midwife is hard and the sickness and accident rate high. She is on duty for 24 hours of the day and much of her work is done at night when no public transport is available. The service continues to attract women of a high standard and every effort is made to implement the recommendation of the Rushcliffe Committee in regard to holidays and off-duty times. Car allowances are paid to four midwives who own cars.

The municipal midwives attended in all 2,243 cases during the year. There was one maternal death in the district, 21 babies died and there were 21 stillbirths. Medical aid was required by midwives on 1,029 occasions, and these cases are sub-divided as follows:

	Mothers	Babies
Cases who had arranged obstetric		
medical service	353	51
Midwives cases	502	123

The claim for medical fees on 625 mothers and babies amounted to £1,036 6s. 6d. The Midwives paid 20,875 ante-natal visits and 28,879 post-natal visits.

NATIONAL HEALTH SERVICE
BRADFORD EXECUTIVE COUNCIL

Statement showing the number of cases where Maternity Medical Services have been provided by Medical Practitioners during the period 5th July, 1948 and 31st December, 1949.

Description of Services	By General Practitioner Obstretitians		By other G.P.'s to persons on their own Lists		TOTAL	
	5/7/48 to 31/12/48	1/1/49 to 31/12/49	5/7/48 to 31/12/48	1/1/49 to 31/12/49	5/7/48 to 31/12/48	1/1/49 to 31/12/49
	31/12/48	31/12/49	31/12/48	31/12/49	31/12/48	31/12/49
1. No. of cases in which complete maternity medical services provided ..	98	14,38	1	10	99	1,448
(a) No. of such cases in which the Doctor providing the services was in attendance at the confinement ..	79	818	—	7	79	825
2. No. of cases in which period I only provided	51	369	1	7	52	376
3. No. of cases in which Period II only provided	36	122	1	1	37	123
(a) No. of such cases in which the Doctor providing the services was in attendance at the confinement ..	23	72	—	—	23	72

Gas and Air Analgesia

During 1949 all midwives on the staff became qualified in the administration of gas and air analgesia. This was requested in 1,522 cases and administered on 1,396 occasions. On a few occasions there was difficulty in getting the apparatus to the midwife in charge of the case in time, whilst on other occasions the analgesia was withheld on medical grounds and another type of anæsthesia administered by the Medical Practitioner. Since early in 1949 a van has become available for the transport of gas and air analgesia. This van is available throughout the 24 hours and is based on the Morley Street Health Centre. (The van is also used for the transportation of equipment, etc., to all branch clinics but its primary purpose is the transportation of gas and air analgesia.)

Midwifery Training School

The school has given very valuable assistance to the Midwifery Service during the year, especially in the central area where midwives are frequently called upon to attend more than one case at a time. The pupils also relieve the midwives during their off-duty period. In 1949 21 pupils passed through the training school and gained their

certificate. During their training these pupils assisted at 639 cases and delivered themselves 138 babies. Three midwives were appointed from the school during the year to the Domiciliary Midwifery Service.

Dental Care

H. S. SHOESMITH, L.D.S., *Dental Officer*

The dental work of the Department has continued to fill a great public need in providing treatment for expectant and nursing mothers and children under 5 years of age. The importance of this work, both in its curative and preventative aspects cannot be over-emphasized. It was expected that this work would increase under the new Act, but it has not done so to the extent anticipated, it is thought because the General Practitioners are taking a greater interest in maternity work and are referring cases directly from their own surgeries to private dentists. Regular visits were paid to the day nurseries. Operations have been carried out as painlessly as possible and anæsthetics, both local and general, are used for extractions and where necessary for fillings. In view of the shortage of school dentists it has been necessary at times to help out at the School Dental Clinic. Any X-ray examinations required are referred to St. Luke's Hospital. Dentures when required are fitted in the surgery and are supplied by a Dental Mechanic.

DENTAL TREATMENT PROVIDED FOR EXPECTANT AND NURSING MOTHERS AND YOUNG CHILDREN

(a) Numbers provided with dental care.

	Examined	Needing Treatment	Treated	Made Dentally fit
Expectant and Nursing Mothers	402	378	360	347
Children under five	566	552	545	535

(b) Forms of dental treatment provided

	Extractions	Anæsthetics		Fillings	Scalings or scalings with gen. Treatment	Silver Nitrate Treatment	Dressings	Radiographs	Dentures Provided	
		Local	Gen.						Com- plete	Partial
Expectant and Nursing Mothers ..	987	86	247	165	54	—	58	3	59	39
Children under five ..	1,003	2	521	84	—	7	10	—	—	—

1. Patients requiring X-ray examination are sent to St. Luke's Hospital, Bradford.
2. Dentures required are made by a local Dental Mechanic to the Profession.

Health Visiting

Establishment: 50 Health Visitors; 1 Superintendent.

Twenty average employed during the year.

The most important part of the work of the Health Visitor must continue to be the supervision of young children in their own homes, and in addition, under the National Health Service Act, the health visitor is now responsible for the visitation of persons suffering from illness from any cause, of convalescents, and aged and infirm persons. This greatly increases the work of the Health Visitors' Department, at present very under-staffed, because of the shortage of trained health visitors. Visits to young children in their homes are reduced to less than half the number recommended by the Minister of Health.

During the year the Health Visiting Staff visited 65,926 houses and dealt with 74,098 cases as follows: Infants 30,283, Pre-School Children, 36,678; Infectious Diseases, 3,721; Tuberculosis, 920; Ante-Natal, 2,294, and Special Visits, 202.

It will be noted that these figures are greatly in excess of the numbers visited during the year 1948. This is largely due to the increased number of Health Visitors on the staff as in January 1949 there were only 13 whereas in December, 1949 there were 18. Although this is a substantial increase on establishment, and 18 by no means meets the needs of the city

for these key socio-medical workers. An average of the figures given above shows that there were approximately 6 visits to each baby in the first year and 2 in the following 4 years, which is not sufficient when it is considered that this average includes special visits to premature infants, to over-crowded homes where children are so prone to early infections and to problem families where young children are often neglected and suffer both physically and mentally. The continued shortage of hospital maternity beds adds an extra duty to the Health Visitor as the onus for giving a report to the hospital on the home conditions of any woman who wishes to be confined in hospital must necessarily fall on the Health Visitor.

The Superintendent Health Visitor, in addition to organising the work of the visitors and clinic nurses has also worked in close liaison with the Hospital Almoners, in questions of care and after-care. She exerts a supervisory control over the staff of the day nurseries and is responsible for arranging the admissions to these nursersies.

Health Visitors Training School

The first course of training was commenced in September 1948, and was completed in April 1949. All of the 6 approved students are now qualified and are working on the staff. The work of the school is carried out in association with the Technical College and a special Sister Tutor has been appointed. Practical instruction is given in the various branches of health visitation and in addition many other social workers in the voluntary services and members of the Local Government Department have willingly given time and thought to visits and administration. Their help and good will is greatly appreciated.

The second course of training was commenced in September 1949 and again only 6 students were appointed. This is a disappointingly small number, insufficient to increase the establishment of Health Visitors for the extra duties they must undertake and barely sufficient to maintain the present establishment by replacing resignations and retirements.

Vaccination and Immunisation

Smallpox Vaccination

Since compulsory smallpox vaccination ceased on the appointed day the number of vaccinations in the City has fallen and during the year 1949 there were only 246 primary vaccinations and 104 revaccinations as against 415 primary and 219 revaccinations in 1948. This is to be regretted and continuous efforts have been made by the health visitor staff to encourage parents to have their children vaccinated against smallpox. The Local Health Authority also arrange for General Practitioners to provide free vaccination against smallpox and also immunisation against diphtheria for all persons in the area who might desire this service. A payment of 5s. is made to the General Practitioners on the return of each completed record card of a vaccination or diphtheria immunisation.

Diphtheria Immunisation

During the year 5,947 children under 15 years of age were immunised against diphtheria as against 3,538 children in 1948. Of this total 3,852 immunisations were carried out by Medical Officers of the Health Department and 2,095 by General Practitioners. It is pleasant to be able to record this great increase from 463 immunisations performed by General Practitioners in 1948 to this excellent figure of 2,095. On the 31st December 1949, it was estimated that 40 per cent of children under 5 years of age and 61 per cent in the age group 5-15 had been immunised against diphtheria. At the request of the Medical Research Council a special investigation has been undertaken by the department to determine the efficiency of a new and more refined antigen (PTAP) against diphtheria, and to do the follow up work required for this survey a special nurse was appointed. This survey, which is being conducted in several other large cities, will go on for some considerable time yet before any results can be reported.

Whooping Cough Immunisation

The number of children immunised against Whooping Cough in 1949 was 386. No special efforts were made by the Health Department to

encourage this immunisation as it is not known yet which of the vaccines if any, is most reliable. At present large scale experiments are being conducted by the Medical Research Council throughout the country with different types of vaccines and until some decision is reached it is not considered wise to press the immunisation. However, it is obvious that an effective vaccine is urgently required and results of these experiments are being awaited with great eagerness.

Ambulance Service

W. R. BROWN, *Ambulance Officer*

During 1949 there was a steady increase in the number of patients carried by the Ambulance Service apart from the months of April, June and August. The closing of the out-patients departments of the hospitals during the holiday periods accounted for the slight general decrease to a great extent. Two old ambulances no longer roadworthy were sold, but the service was reinforced by the delivery of five new ambulances and two sitting-case cars. For many years the St. John Ambulance Brigade have provided a voluntary service and again in 1949 the Bradford Local Authority contracted with the Brigade for the use of its ambulances to the extent of 36,000 miles. The bad weather of the previous year was not experienced and no delays were attribute to atmospheric or bad conditions.

TABLE 1 *Figure Showing in Detail the Activity of the Service during the Year*

		Infectious Diseases	Accidents	Midwives	Other Cases
January	..	84	209	41	2,984
February	..	88	173	81	3,071
March ..	..	81	189	76	3,441
April ..	..	77	213	79	3,155
May ..	..	80	218	74	3,446
June ..	..	49	218	84	2,985
July ..	..	98	247	76	3,357
August ..	..	76	228	82	3,100
September	..	75	257	56	3,735
October	..	119	226	26	4,082
November	..	100	216	29	5,163
December	..	125	230	37	4,076
		752	2,624	741	42,595

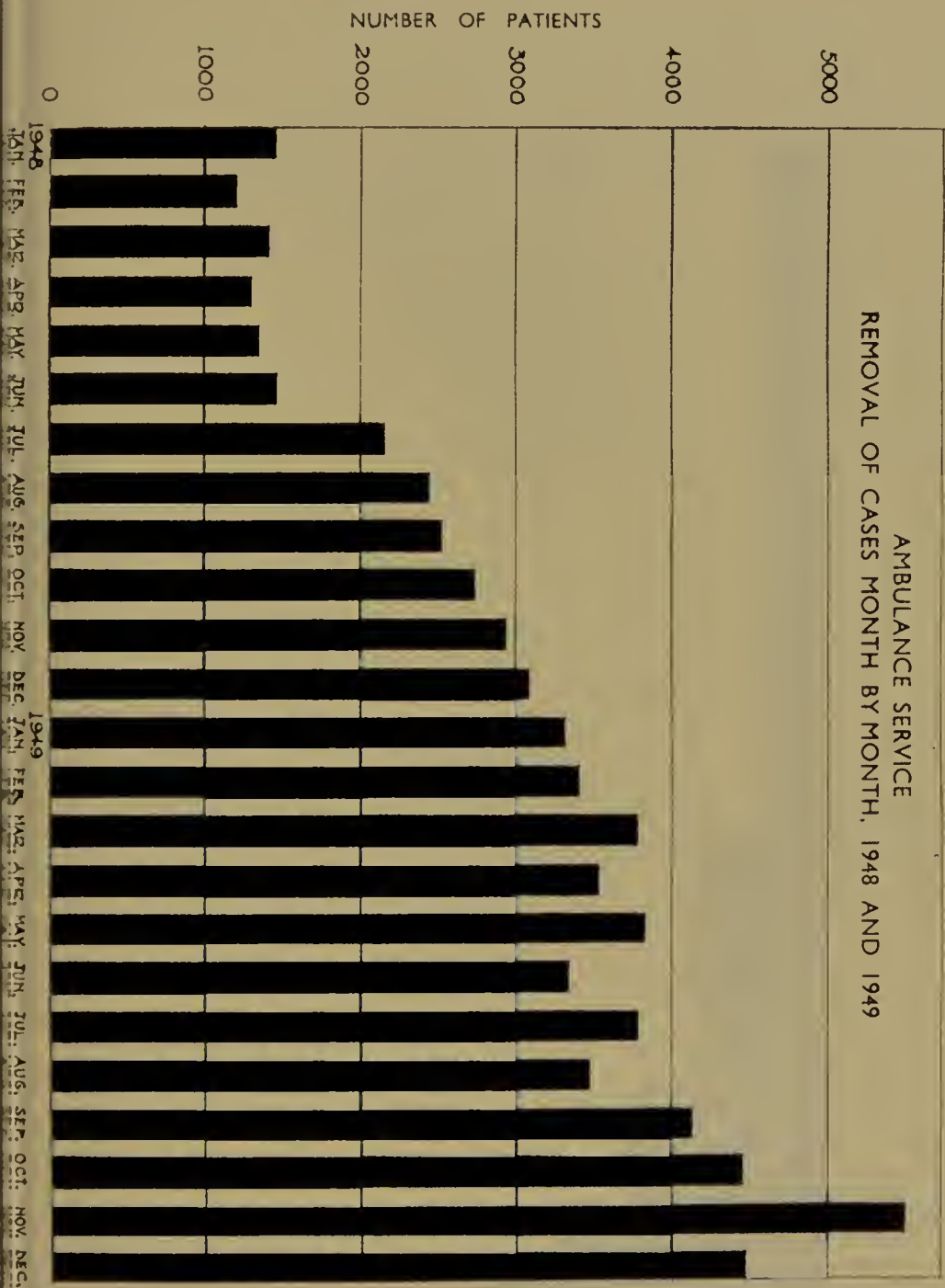


FIG. 18

AMBULANCE SERVICE
NUMBER OF CASES MOVED IN A TYPICAL MONTH
OCTOBER, 1949

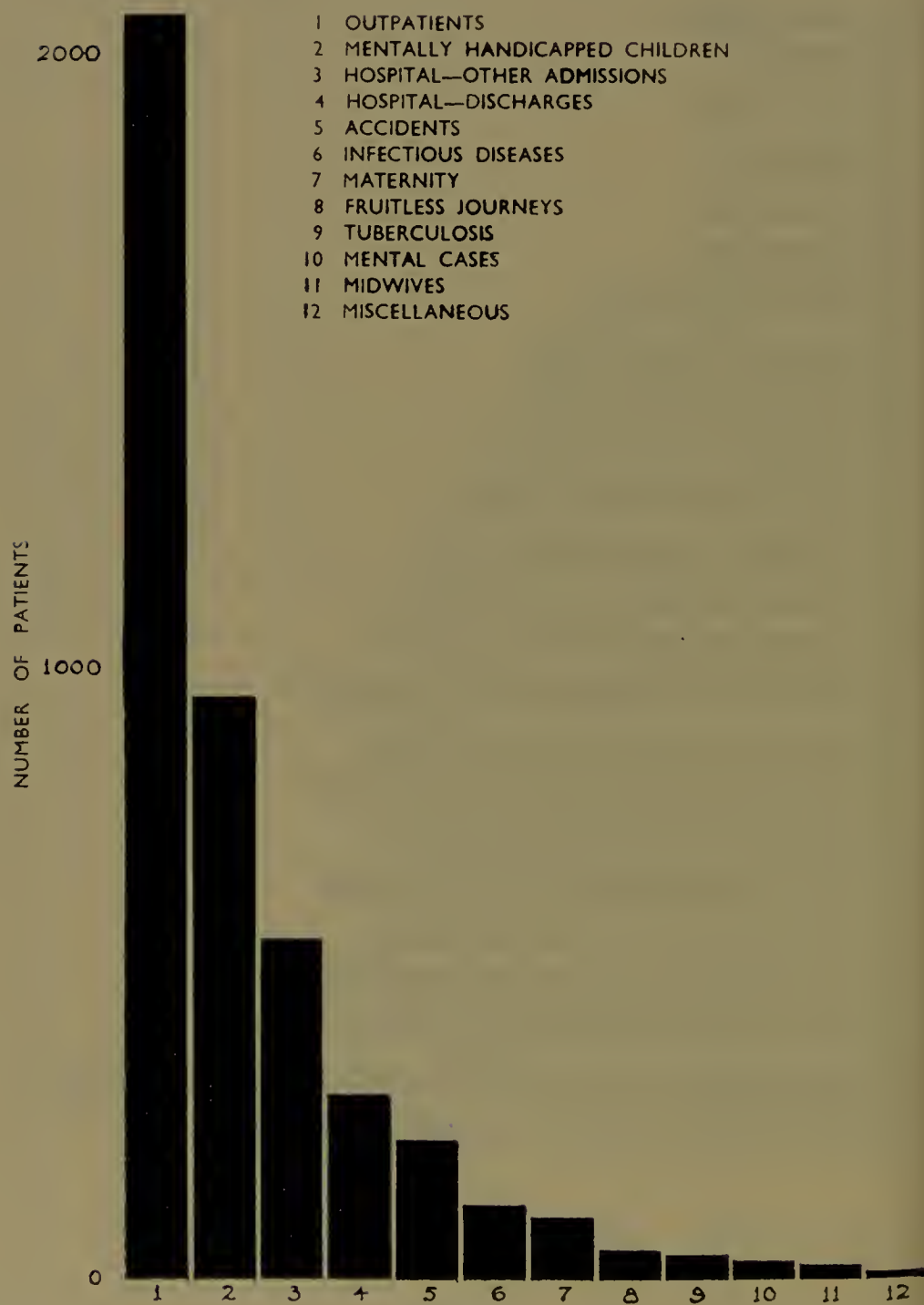


FIG. 19

While the increase in numbers affected all classes of patients the demand for the transport of out-patients to and from hospital continued to be exceptionally heavy, and in many cases there was some regrettable delay in getting patients to and from their homes. Long distance journeys have been undertaken to many parts of the country, and patients have been transported safely with a great measure of comfort.

During the year the Occupation Centre for Mental Defectives was opened at Dudley Hill, and the ambulance transported the children to and from this Centre. A new mess room and canteen has been provided for the staff and a new store room for equipment. These additions to the premises have provided a much needed improvement, and added greatly to the comfort of the members of the service. All repairs and maintenance work have been carried out by our own staff on the premises.

Mental Health Service

H. V. BURKE, *Mental Welfare Officer*

I ADMINISTRATION

(a) Constitution and Meetings of the Mental Welfare Sub-Committee.

The constitution of the Mental Welfare Sub-Committee is as follows:

The Lord Mayor

Chairman: Councillor N. Fienburgh, J.P.

Deputy Chairman: Alderman F. Duce, J.P.

Members:

Alderman D. Black, Councillors E. Allen, A. Barber, J.P., W. M. Hird,
and F. Badland

Co-opted Members:

Dr. G. Priestman, Mrs. M. F. Titterington, Miss Wedgeworth and Mr. A.
Hudson

Monthly meetings are held.

(b) Number and Qualifications of Staff employed in the Mental Health Service

The present staffing of the Mental Health Service is as follows:

Medical Officer for Mental Health (vacant).

The Mental Welfare Officer responsible through the Medical Officer of Health for the organisation and control of the Service.

Three Duly Authorised Officers (including two former District Social Welfare Officers).

One Occupation Centre Supervisor.

Four Assistant Occupation Centre Supervisors.

One Mental Deficiency Social Worker.

Clerical Staff (2).

Psychiatric Social Worker (vacant).

Suitable applicants for the appointments of Medical Officer and Psychiatric Social Worker have again not been forthcoming.

(c) Co-ordination with Regional Hospital Board and the Hospital Management Committees

The arrangements made last year for the Mental Health Service to act as agents on behalf of the local (Mental) Group Hospital Management Committee, so far as the performance of all domiciliary duties in respect of mental defectives are concerned, have continued.

(d) Duties delegated to Voluntary Associations.

No duties have been delegated to Voluntary Associations.

(e) Training of Mental Health Workers

Notwithstanding the comparatively recent opening of the Occupation Centre for mental defectives, students are being accepted for training as Assistant Supervisors at the request of the National Association for Mental Health in conjunction with that Association's "Diploma" Course for Occupation Centre Supervisors.

2 ACCOUNT OF WORK UNDERTAKEN IN THE COMMUNITY

(a) *Under Section 28, National Health Service Act, 1946, Prevention, Care and After-Care*

Advantage has been taken during the year of the facilities provided by the Psychiatric Clinics at the St. Luke's Hospital, Bradford, and the Bradford Royal Infirmary; the clinics operating under the auspices of the Regional Hospital Board.

The mental hospitals' own psychiatric social workers undertake after-care visitation in respect of certain cases leaving their own hospitals. Contact with cases not so visited has been maintained by the Authorised Officers of the Mental Health Service. The services of a Psychiatric Social Worker are essential in developing our own facilities, but in the present dearth of such workers repeated efforts to make such an appointment have been abortive. The Clinics at the St. Luke's Hospital and Bradford Royal Infirmary, previously mentioned, will, it is hoped, be a place of contact for all Psychiatric Social Workers geographically concerned so that co-ordination of effort may be obtained.

In a number of cases help has been given to and accepted from the Child Guidance Clinic under the auspices of the Local Education Authority, and similar co-operation has been enjoyed with the Marriage Guidance Council.

(b) *Under the Lunacy and Mental Treatment Act, 1890-1930, by Duly Authorised Officers*

Although lack of beds in mental hospitals proper and in observation wards have at times caused some anxiety, generally the taking of initial action under the Acts has proceeded smoothly and satisfactorily during the year, but it is stressed that the lack of "Section 20 accommodation" in particular is very acutely felt as it greatly hinders the taking of initial action by the D.A.O.'s.

During the year it was necessary to arrange for the re-examination of some 123 patients at two local mental hospitals by way of renewed initial investigation in the circumstances that the patients detained therein were not the subject of formal Orders under the Lunacy and Mental Treatment Acts, and the Hospitals had not then been designated for purposes other than "Section 20." Medical examinations were

(a) *Lunacy Act, 1890.*

	Males	Females	Total	Over 70 years of age	Death prior to further Action	Discharges prior to further Action	Certified under Section 16	Other Disposals Section 1 Section 5 Voluntary Temporary
Order of Duly Authorised Officers (3 day Section 20)	104	158	262	101	29	69	142	17 5
Order of Judicial Authority (14 day, Section 21)	15	23	38	14	8	8	21	1 -
Summary Reception Orders (Section 16) Direct to Mental Hospital	68*	71*	139*	57*	-	-	139	- -
	187	252	439	172	37	77	302	18 5

(b) *Mental Treatment Act, 1930.*

Voluntary Cases Section 1, Mental Treatment Act, 1930	48	32	80	8	-	-	1	80 -
Temporary Cases, Section 5, Mental Treatment Act	1	4	5	-	-	-	-	- 5
	49	36	85	8	-	-	1	80 5
Grand Total, Lunacy and Mental Treatment Acts	236	288	524	180	37	77	303	98 10

NOTE: * Of the 303 patients dealt with under Summary Reception Orders (Section 16, Lunacy Act, 1890), 103 were "recertifications" to legalise their detention in the local mental hospitals.

carried out by Medical Officers of the Regional Hospital Board and resulted in 103 patients being retained under Section 16 of the Lunacy Act, 1890, 16 patients elected to remain as voluntary patients, and 4 patients were discharged.

Notification of old people and their certification under the Lunacy Acts has increased during the year. It is hoped that the increase will not continue and will shortly reach a stable level. The provision of hostels under the National Assistance Act and the provision of long-stay annexes, etc. by Hospital Management Committees as envisaged in Circular R.H.B. (47) 13, will, it is anticipated, do much to prevent "certification" of old people and serve also to make mental hospital accommodation more readily available for the acute cases.

Every effort has been made to extend the use of the voluntary case procedure under Section 1 of the Mental Treatment Act, 1930, and the number of patients desirous of taking advantage of this procedure is increasing locally; at the same time it is again stressed that the shortage of requisite mental hospital accommodation for such patients is experienced.

The following figures show the number of cases dealt with under the Lunacy and Mental Treatment Acts during the year ended 31st December, 1949.

(c) *Under the Mental Deficiency Acts, 1913-1938.*

- (i) Ascertainment, including number of defectives awaiting vacancies in institutions at 31st December 1949.

	M.	F.	T.
<i>Ascertainment during the year 1949:</i>			
Cases reported by Local Education Authority (Section 57) Education Act, 1944:			
(i) Under Section 57 (3)	15	6	21
(ii) Under Section 57 (5)	11	4	15
Other ascertained defectives reported during 1949 and found to be "subject to be dealt with"	11	7	18
Other reported cases ascertained during 1949 who are not at present "subject to be dealt with" ..	3	1	4
Total number of cases reported during the year ..	40	18	58
			83

Disposal of cases reported during the year:

Cases ascertained to be "subject to be dealt with:"	M.	F.	T.
(i) Admitted to Institutions	4	2	6
(ii) Placed under Guardianship	—	—	—
(iii) Taken to places of safety	1	1	2
(iv) Placed under Statutory Supervision	31	14	45
(v) Died or removed from area	1	—	1
Cases not at present "subject to be dealt with:"			
(i) Placed under voluntary supervision	3	1	4
Total	40	18	58
Number of mental defectives awaiting removal to institutions as at 31st December 1949	10	6	16
Number of Bradford cases in institutions for mental defectives as at 31st December 1949	243	157	400

(ii) Guardianship and Supervision.

Particulars of mental defectives as at 31st December 1949:

(a) Under Guardianship Orders	5	3	8
(b) Under Statutory Supervision (excluding cases on Licence)	356	237	593
(c) Under Voluntary Supervision	18	4	22

During the year over 1,600 visits have been made to the homes of mental defectives; 460 visits being on behalf of the local (Mental) "B" Group Hospital Management Committee. It has been possible to place many defectives in local employment with the assistance of the Disablement Resettlement Officers of the local Employment Exchange.

The comparatively small number of defectives appearing before the City Courts (4 Section 8 Orders have been made during the year) is, it is thought, some indication of the good effects of the close contact maintained with mental defectives and their families.

Where financial and other circumstances warranted, many cases have been referred to the offices of the National Assistance Board with satisfactory results; and the excellent co-operation of the local officers of that Board is appreciated. In a number of cases, clothing for defectives has been supplied by the Corporation through its Mental Health Service.

The number of suitable defectives under Order at the local institution being granted leave of absence on licence is increasing and making vacancies available for the more urgent cases in the community. It is considered that this procedure is of importance in the easing of the present position of lack of accommodation which exists in mental deficiency institutions. The number of defectives who have failed whilst on licence is small indeed and a number of defectives have been recommended for discharge in accordance with the provisions of the Board of Control Circular No. 850.

(iii) Training.

Occupation Centre

An Occupation Centre for ineducable mentally defective children was opened on the 6th September 1949, with an initial intake of 17 children.

The premises, a Methodist Sunday School, which consist of an assembly hall, 6 classrooms and several smaller rooms, have been taken on a five year lease.

The children are conveyed to and from the Centre daily by ambulance; midday meals are supplied by arrangement with the Local Education Authority through its School Meals Service. Arrangements have also been made for the provision of free milk.

It is planned to carry out certain works of adaptation to the buildings at an estimated cost of £480; and it is expected that work will commence in the near future.

At the 31st December 1949, there were 57 children in attendance at the Centre. There is also a waiting list of children awaiting admission and the list will be reduced as soon as the proposed adaptations have been completed. Thereafter all appropriate cases will be admitted, making a total of about 80.

During the year the Centre was visited by the Tutor of the Supervisor's Courses arranged by the National Association for Mental Health and arising from that visit it has been agreed to accept students for the purpose of obtaining practical experience.

The Medical Officer of Health and the Mental Welfare Officer visited the Special Unit for Spastics at the Queen Mary Hospital for Children, Carshalton, in December 1949. The possibilities of opening a special class for "spastics" at the Occupation Centre is receiving consideration.

It is important to note that consequent upon admission of defectives to the day Occupation Centre, in several cases already their names have been withdrawn from the waiting list for Institutional care, at the request of the parents.

Industrial Centre

The need for an Industrial Centre for unemployable defectives is felt, and it is hoped to make a start with such a Centre in 1950.

Ambulance Services

Of the total of 524 patients removed during the year to mental hospitals, 449 were conveyed by ambulance transport.

As stated elsewhere in this report, the daily conveyance from their homes of mental defective children attending the Occupation Centre, is carried out by the Council's Ambulance Service. Ambulance Sitting Car vehicles specially designed to accommodate sitting cases, are on order; and the first of these capable of carrying 18 children, is due for delivery in the near future.

Home Nursing

Under Section 25 (Home Nursing) of the National Health Service Act, 1946, Local Health Authorities are empowered to make arrangements with voluntary organisations providing the services of nurses. The Bradford District Nursing Council which arose by the combination of the seven district nursing associations formerly in existence in Bradford, was formed to carry out this work. The Council, which is reimbursed to the extent of 100 per cent by the Local Authority is responsible for the Home Nursing Service throughout the City. There are 18 members of whom 11 (60 per cent) are members of the Bradford Local Health Authority. The Headquarters of the Council is situate at 93 Little Horton Lane, where there is a Hostel with accommodation for 11 nurses and which is a key Centre for the training of Queen's Nurses.

The staff on the 31st December 1949 consisted of: 1 Superintendent; 1 Assistant Superintendent; 11 Queen's Nurses; 2 Queen's candidates; 4 State Registered Nurses; 1 Assistant Nurse, and 1 part-time State Registered Nurse. Eleven of the staff are accommodated at the central home in Little Horton Lane; 1 at Eccleshill; 1 at Idle; 1 at Clayton; 1 at Greengates; 1 at Thornton, and 2 at Buttershaw. There are also 4 non-resident nurses, including 2 male nurses, whose base of operations is the central home.

During the year the Home Nursing Service has continued to work smoothly under its new administration. There was an increase in the number of cases nursed and in the total number of visits paid during the year. Information regarding cases was received from the Public Health Department, General Practitioners and Hospitals, and this year it is pleasant to record that there has been a marked increase in the number of cases discharged earlier from hospital to be nursed at home. A Scholarship was awarded to enable the Second Assistant Superintendent to take the Health Visitors' Course at Bolton Technical College. The number of applications from students has not been satisfactory, probably owing to the delayed decision on salaries for District Nurses and it is hoped that this situation will be remedied during 1950. The following are the details of the work done during the year 1949.

Classification of New Cases

Cases on the books, 31st December 1948	..	..	243
New cases	..	..	2,211
Discharges	..	..	2,121
Remaining on the books, 31st December 1949	..	..	333
Total Visits Paid	..	..	43,354

Classification of New Cases

Medical	..	..	..	..	..	1,573
Surgical	..	..	..	..	..	452
Gynæcological	..	..	..	..	..	145
Maternal complications	..	..	..	..	..	41
Total	..	..	..	..	..	2,211

Domestic (Home) Help

The National Health Service Act recommendation that a Home Held Service should be available for all homes where the mother of the family was incapacitated or could not for any other reason give her family

the required amount of attention, has been greatly welcomed by the people of Bradford. Bradford was a pioneer in this field of service to the community, the first Home Help being appointed in 1929. In spite of the wide employment of married women in the City there was a very satisfactory response to advertisements for workers and during the year the number of home helps increased from the equivalent of 26 full-time helps to the equivalent of 37. A total of 1,113 applications for domestic assistance was received during the working year, and assistance was given in 714 instances. Obviously in cases where the demand greatly exceeds the supply a certain system of priority had to be drawn up. In the main the top priority was given to maternity cases and all other cases were judged on their merits. An increasing number of applications came from mothers with large families and from aged and infirm persons. Cases of tuberculosis and chronic illness are also catered for but unfortunately it is often necessary to withdraw help from the chronic cases to give urgent temporary help in other directions.

Details of Cases during the Year

Number of applications	1,113
Number of applications for help in Maternity Cases	438
Average number of cases attended weekly ..	76
Number of free cases attended during the period.. . . .	139
Number of cases where a charge was made..	575
Amount collected during this period in respect of assessed charges.. . . .	£3,217 3s. 2d.
Amount paid in wages to Home Helps during this period	£8,466 9s. 4d.
Amount of travelling tokens used by Home Helps during this period	£292 4s. 3d.
Number of Home Helps employed 1st January: full time, 17; part time, 9; total number 26.	
Number employed, 31st December: full time, 30; part time, 21; total number of Help 51 (equivalent to 37 full time helps working 48 hours per week).	

Prevention of Illness—Care and After-care

The prevention of illness, care and after-care of persons suffering from illness or mental defectiveness is the subject of Section 28 of the National Health Service Act and covers an extremely wide field. The successful implementation of this Section necessitates the co-ordination of the work of practically every organisation which has for its aim the physical and social betterment of the people of this country.

As a mark of the importance attached to this Section a special Sub-Committee of the Health Committee has been appointed to deal with these problems. In addition, a Health Service Advisory Bureau has been established at the Health Centre, Morley Street.

So far the Minister of Health has issued directions only in respect of prevention of tuberculosis and the care and after care of persons suffering from tuberculosis, but the local Health Authority has reviewed the arrangements which it had already made for persons suffering from other kinds of illness and has proposed to the Minister an extension of this service.

Complete co-ordination between Hospitals, General Practitioners and the Public Health Department has not yet been established and we are still awaiting final agreement on a special form to be sent from the hospitals to the Medical Officer of Health on the discharge of all children and of adults who are considered to be in need of after care. Without this most important co-ordination many households must be left without the help and advice they need.

The social worker on whom has been placed the major responsibility for carrying out the provisions of this Section is the Health Visitor. She already has the entree to the home by virtue of her interest in the mother and young child. She will now be the assistant and helper of the Medical Practitioner in his advice to and care of the family. During 1949 the Health Visitors paid 5,000 visits in connection with care and after-care work. The services of the district nurse and of the home help can be arranged either through the Health Centre, Morley Street or by direct contact with the health visitor. She will also arrange

convalescent treatment for the tardily recovering patient and generally in association with the family doctor will concern herself with the health of the family as a whole. One of her most important functions will be as it always has been, to promote Health Education.

Semon Convalescents' Home, Ilkley

Seventy-five years ago Mr. Charles Semon, J.P., a former Mayor of Bradford, purchased six acres of land on Ilkley Moor for the erection of a Convalescent Home. This was built in 1874 and presented to the Bradford Corporation Health Committee to be administered by them. The total cost of the Home, including furniture and fittings was £12,000, and this was accompanied by the sum of £3,000 to provide a fund towards working expenses. The Home is unique as a Convalescent Home as it provides accommodation for men, women and children over 5 years of age. The rooms are spacious and comfortable, with central heating in winter and hot and cold water in each bedroom. There is a separate sitting room for women, a billiards room for men, and a lounge for both men and women.

The Home is noted for its healthy situation, nearly 1,000 feet above sea level on the edge of Ilkley Moor. From the grounds can be seen a wonderful panoramic view of Wharfedale, and Bolton Abbey is within a distance of six miles.

With the inception of the National Health Service Act on 5th July 1948, Bradford was in the fortunate position of having this well-equipped Convalescent Home at its disposal, and it has therefore been possible to arrange for true convalescent patients to benefit by a period of treatment at this Home in accordance with the after-care provisions of the Act.

The Home provides accommodation for 70 visitors per week, and with the exception of two or three months in the winter, it is filled to capacity. It was the intention of the Founder to make the Home self-supporting, and in order to do this it is necessary to charge a fee of £2 15s. per 90

week, but in accordance with the decision of the Local Authority arrangements can be made to waive this charge in cases where persons cannot afford to pay.

Silver Jubilee Home, Heysham

This Home is administered by the Maternity Care Committee. During the year 229 mothers and 320 children stayed at the Home, mostly for a period of 2 weeks. The Home has proved a great boon to these mothers or children (aged 5 years or under) who have been ill and find this the only means of getting the necessary rest and change of air.

A local Committee of Morecambe ladies take a great interest in the work of the Home and organise Whist Drives weekly, while picnics and other outings are held when the weather is suitable. The great need is for more beds, as the work done at the Home is only touching the fringe of the problem and there is always a waiting list during the busy months. It is to be hoped that the dream of an extension to the Home will become a reality in the not too distant future.

National Assistance Act, 1948. Section 47.

Care of the Elderly

During 1949 many cases of old people suffering from grave chronic illness or in need of proper care and attention have come to the notice of the Department. Each case was investigated and if it was thought that hospital or institutional accommodation was necessary the requisite authority was notified and in every case appropriate action was taken. It was not necessary to make use of Section 47, as with one or two exceptions everyone who came to our notice was more than willing to be helped and cared for, even the one or two cases who first refused very soon changed their minds and accepted the proffered help. In many cases home helps were sent to these old people which saved a much greater strain being placed on the limited residential accommodation available.

Health Education

Efforts to inform the public in the lines to be followed for the achievement of positive health were pursued vigorously throughout the year. To a large extent the main emphasis was placed on attempting to improve the hygienic standards of food handlers and to try to get members of the public hygiene conscious so that they would not accept food handled or wrapped in an unsatisfactory manner, and to refuse or complain about any dirty crockery which might be put before them in a restaurant or canteen. The main methods used were lectures by Medical Officers and Sanitary Inspectors of the Department to food handlers and to Women's Organisations. The Food and Shops Inspectors have always spent a large amount of time during their inspections in instructing the individual food handlers in the fundamental facts of personal hygiene. After all, it is the careless, lazy and unsatisfactory food handler who is the greatest danger and he is as a rule the most difficult person to persuade to attend lectures, especially when outside working hours. In addition hundreds of pamphlets on food hygiene and the prevention of the spread of infections have been given out to employees in their pay packets, in co-operation with the employers through the good offices of the Secretary of the Chamber of Trade. During the year a 15 page comprehensive guide to all the local Health Services was published by the Department and 500 copies were distributed. There was also a film and lecture given to school canteen staff by a Detergent Company, and also films were shown in the Maternity and Child Welfare Department to mothers and health visitors.

Education of mothers by Medical Officers and Health Visitors in the best methods of bringing up their children has gone on steadily in the Child Welfare Clinics scattered throughout the City. Here also pamphlets on baby feeding and the management of childish ailments have been distributed to the mothers, and there is no doubt whatever that great advantage has accrued. Instruction in the necessity for immunisation and vaccination has now become an integral part of the health visitor's work when the baby is between 3 and 9 months old, i.e. at the time when the health visitor sees the mother and baby most

frequently. In view of this it is pleasant to record that the deaths and complications from the infectious fevers have become much less than in former days. Hoardings in different parts of the City were rented and posters recommending different preventative methods against disease were shown, a different subject being exhibited each month. An exhibition stand on loan from the Central Council for Health Education has been on show at the Health Service Advisory Bureau in Morley Street, and many interesting topics have been received for show purposes during the year. It should be pointed out that the Deputy Medical Officer of Health, the Chief Sanitary Inspector and Specialist Inspectors on the staff hold appointments as part-time lecturers at the Bradford Technical College where they lecture and give practical demonstrations in hygiene, sanitation and sanitary law, etc., to student sanitary inspectors and to qualified Sanitary Inspectors who are studying for their Meat and other Food Certificates. In this course and also in the Health Visitors Training Course every effort is made to inculcate into both these classes of health workers the basic principles of health education so that they in their turn may know how to pass on their information and knowledge to the general public when they have qualified in their respective spheres. During the year three midwives, three health visitors and three nursery matrons attended refresher courses approved by the Ministry of Health.

Section 4

Environmental Hygiene

FACTORIES

WORKPLACES

SHOPS

HOUSING

COMMON LODGING HOUSES

SMOKE ABATEMENT

RODENT CONTROL

WATER SUPPLY

SEWAGE

Environmental Hygiene**Environmental Hygiene**

F. H. MYERS, M.R.S.I., M.S.I.A., *Chief Sanitary Inspector*

The City has been divided into districts for administration purposes and on each one a District Sanitary Inspector is responsible for all the routine work, including visits in connection with cases of some infectious diseases. Special attention is given to possible sources of infection and to tracing contacts. Indeed at one period during the year all the District Inspectors had to be concentrated on investigations connected with one large localised outbreak of Food Poisoning, which resulted in a rapid analysis of the position. Other duties such as those laid on the Council by the Factories Act and the Shops Act are carried out by Specialised Inspectors who cover the whole City in regard to their own subjects.

The District Sanitary Inspectors made 33,231 inspections and follow-up visits in connection with the investigation and suppression of nuisances. The total number of nuisances reported was 7,326. The statement in the appendix shows the nature and the amount of work carried out by District Inspectors during the year. Much of the work of the District Inspectors results from complaints received in the Department and on the districts, and nuisances are ascertained from these sources. There were 3,726 such complaints as against 4,073 the previous year. Much valuable work was carried out by persuasion, but it was necessary to serve 2,958 statutory notices regarding the abatement of nuisances as compared with 3,052 the previous year. Several cases were reported for prosecution at the City Court for failing to obey the Nuisance Notice, and in the majority of cases fines were imposed. It will be observed from the statistics that a considerable number of

the notices served by the Department have been executed in default and this power is a considerable lever when requesting work prior to serving statutory notices.

The District Inspectors supervised 5 exhumations during the year, all of which were carried out satisfactorily and without nuisance.

Throughout the year routine samples of water for bacteriological examination were submitted and 374 such samples obtained from different points in the City were reported upon. In addition, 61 samples were taken during the extensive drought in the middle of the summer in Allerton and Thornton Wards from all those sources of supply not connected to the public mains, because this is the only area where the majority of the premises are not connected to a piped water supply. It is our intention to take similar samples during the flood period of the winter for the purpose of comparison. The summer samples showed gross pollution in the majority of instances. The results of the analysis for plumbo-solvency of the City Water taken during the year are shown in the Appendix.

When dealing with verminous dwellings under the provisions of Section 83 of the Public Health Act, 1936, the policy has been developed of not doing work in default but of prosecuting the culprits in the City Court where continuing penalties are pressed for; it has been found that this has a most salutary effect in regard to the eradication of vermin.

Hygiene in Factories

The provisions of the Factories Act, 1937, which are enforced by the Council and delegated to the officers of the Health Department are as follows:

- (1) In factories (with certain exceptions) where mechanical power is not used—

Section 1—Cleanliness.

Section 2—Overcrowding.

Section 3—Temperature.

Section 4—Ventilation.

Section 6—Drainage of Floors.

- (2) In all Factories, Electrical Stations, Institutions, Works of Building Operations and Engineering Construction (except Factories belonging to or in the occupation of the Crown and Building Operations and Works of Engineering undertaken by or on behalf of the Crown).

Section 7—Sanitary Conveniences

The report is presented in the Appendix in brief table form as requested by the Minister of Labour and National Service. It is followed by a summary of the work involved in remedying the defects found to exist.

As will be seen from the report, the work involved in enforcing the provisions of Section 7 forms much the greater portion of the total work. In this connection it is gratifying to report a very great improvement in the standard of sanitary accommodation in factories in this city. In many cases terrazzo, proprietary and tiled floors, and similar finished walls have contributed to a standard which before 1939 would only be expected in the most up-to-date commercial buildings, stores and offices.

In a large number of cases where no structural alterations have been necessary the tendency was to discard the whitewashing and to use a gloss finish paint for ceilings and walls. Such a finish provides an impermeable surface which can be readily cleaned.

Hygiene in Workplaces

These include places where persons are employed otherwise than in domestic service, but do not include factories and shops.

During the year 360 visits were made to workplaces for the purpose of inspection, and supervision of work carried out—much of which was done voluntarily. There were however, 10 cases where the sanitary accommodation was found to be unsuitable or unsatisfactory and 12 cases where the defects were remedied. There was also one case where the cleansing of a workplace had been carried out. As will be seen from the table in the Appendix the work has been mainly in connection with the sanitary accommodation for employees.

While Section 46 of the Public Health Act requires that there shall be suitable and satisfactory accommodation in the way of sanitary conveniences for persons employed there have been no Regulations made similar to those made under the Factories Act, 1937.

The position is much the same in relation to ventilation, cleanliness and overcrowding in workplaces, for it is not until it can be proved that work is carried on under conditions which are prejudicial to the health of those employed that statutory action can be taken.

In the absence of regulations and orders requiring more methodical arrangements for cleaning, many workplaces continue in use without the cleansing of walls and ceilings or paintwork for much longer periods than those laid down for factories.

Outworkers

The register of outworkers was kept up to date and during the year 918 persons were included in our lists. Many were visited but in no case was it found necessary to take action stopping the sending of work to such premises.

Shops Inspections

The total number of shops on the register was 6,330 and the number of visits and investigations made under the various Shops Acts (1912 to 1938) was 6,456. The number of shops visited in which young persons were employed was 186. Visits were made during the day to ascertain if the necessary forms were used and affixed to the premises and to ascertain what were the general conditions under which the assistants worked in such shops, and visits were also made at night to ascertain whether the various closing orders were being complied with. In 13 instances shops were found open and occupiers selling non-exempted articles on the weekly half-day holiday. These offenders were cautioned. Similar general visits were made on Sundays in order to enforce the Acts. Details of the visits made, of the defects found and of the works carried out are shown in the Appendix.

Rag Flock Acts, 1911-1928

As is our practice samples were taken during the year of rag flock intended for use in the manufacture of bedding and furnishings in order to ascertain the purity of such flocks. Eight samples were submitted to the City Analyst and all were found to conform to the standard of cleanliness laid down.

Housing Inspections

Inspections under parts 2, 3 and 4 of the Housing Act, 1936 were considerably restricted because of the general housing position which is as bad in Bradford as in other parts of the country. Overcrowding is rife not only amongst the back-to-back houses, but even on some Corporation Estates and the whole problem revolves round the question of alternative accommodation. Many families are living in sub-standard houses which are not worth repairing and they can only be satisfactorily housed by providing alternative accommodation. It has been necessary to represent properties to the Health Committee for demolition, but this step has only been taken in those cases where in addition to numerous defects the properties were found to be in imminent danger of collapse. In some cases closing orders were made where it was not possible to demolish old properties without affecting adjoining properties, a step we should not have taken before the war. Considerable use has been made of the repair section, Section 9, to enforce a reasonable standard in many dwellings.

Because of the lack of accommodation in the City we find that more and more houses are being let in lodgings which has resulted in some persons taking advantage of the hardship of others and the Department has successfully represented many cases of overcharging to the Tribunal established under the Furnished Houses Rent Control Act, 1946. As a result of the evidence supplied by Inspectors considerable reductions in rent have been obtained. In two cases prosecutions were undertaken by the Local Authority and fines imposed for charging rents in excess of those fixed by the Tribunal.

Many inspections were made because the points system adopted by the City Council allows for the addition of points on medical grounds towards the house. During the year 1,001 medical certificates in support of a housing application were submitted and investigated, 65 per cent being granted additional points. Full details of the housing statistics will be found in the Appendix.

Common Lodging Houses

At the end of the year there were 6 registered common lodging houses in the city, comprising 33 sleeping rooms, and affording nightly accommodation for 300 males, 4 females and 4 couples.

The total number of persons accommodated during the year was 85,691. The nightly average was 135 representing 43·2 per cent of the accommodation available.

The following table shows the number of nights spent by single men, women, young persons and couples in common lodging houses during the year:

Adults			8 to 21 years		Under 8 years	
Males	Females	Couples	Males	Females	Males	Females
83,692	1,949	—	—	—	—	—

All the houses have been lime-washed and cleansed in accordance with the Public Health Act, 1936.

The total number of inspections made during the year was 160. There have been no cases of infectious disease reported during the year in any Common Lodging House. No difficulties have been experienced in gaining admittance and it has not been necessary to resort to Police Court proceedings.

Smoke Abatement

These duties, formerly performed by a full-time officer, have been carried out during the year by officers having other duties to perform. Nevertheless all complaints have been investigated and observations (each of 30 minutes duration or longer) have been made. There have also been 117 visits made for the purpose of investigating the cause of the smoke and the measures which needed to be taken to abate the nuisances.

Arising from the re-introduction of the Smoke Abatement Regulations, the Regional Controller, Ministry of Fuel and Power, requested that no proceeding should be instituted without first consulting with him. It is therefore the practice to notify the Regional Controller in any case in which it is deemed advisable. During the year 6 cases were referred to him. In three cases the fuel was changed and in the other three cases advice was given on the more suitable methods of stoking, and defects and deficiencies in the plant.

Below is a summary of cases where defects and deficiencies were found to exist and the action taken:

Nuisance	Cause	Remedial Measure Recommended	Measure taken by Occupier
Smoke other than Black Smoke	Insufficient draught and short chimney	Taller Chimney	60 ft. chimney erected
Do.	Short chimney and careless hand firing	More careful stoking or taller chimney	Mechanical Stoker installed
Black Smoke	Insufficient draught	Increased draught	Induced draught fans placed on order
Do.	Mechanical Stoker parts worn, and insufficient care in operation	Repairs and renewals and more careful attention to fires	Occupier has ordered one new stoker and reconditioning of the other
Do.	Defective Mechanical Stoker and defects in flues	Repairs to stoker and flues	Work done
Grit and smoke other than black	Low height of chimney combined with forced draught and absence of grit arrestor	Grit arrestor and taller chimney	Action pending.

Nuisance	Cause	Remedial Measure Recommended	Measure taken by Occupier
Grit	Forced draught and by-passing of gases	Grit arrestor	Change of fuel being tried and test being made
Smoke and Noxious fumes from I.C. Engine	Worn bore and piston rings	Engine overhaul	Work done

In all other cases satisfactory results have been obtained by careful attention to the manner of operation.

During the year more complaints have been received of nuisances arising from the deposit of grit than from black smoke. Such nuisances present many difficulties in areas with many chimneys in close proximity. From experiments which are now being carried out it is hoped to evolve a method by which it will be possible to prove that a deposit of grit is from a particular chimney. Unlike smoke, however, which can be observed under any condition of weather, evidence of grit fall can only be obtained under certain conditions of weather. Neither is there any legal standard of dust or grit concentration in the gases leaving a chimney. It is therefore necessary to prove that the grit fall is in such quantity as to be a nuisance and to satisfy all concerned that it is from one particular chimney.

During the past nineteen years the Corporation have maintained two deposit gauges and undertaken local investigation of atmospheric pollution. One gauge is situated in a northern residential district and one in the centre of the City. These are known respectively as North and Central. The contents of the gauges are examined monthly by the City Analyst and the results computed: (1) in metric tons per 100 sq. km.; (2) in English tons per sq. mile, and (3) in the percentage tar, carbon, ash, sulphate, chlorine and lime in the total deposit.

It has been decided to maintain three more gauges, two in residential districts and one in an industrial district. These will be known as Chellow Heights, Bierley, and Ambulance Station. The sites have been inspected and approved by the Superintendent of Observations, Fuel Research Station, Greenwich, to whom a return is sent monthly. It is anticipated that these instruments will provide useful information for comparison

ATMOSPHERIC POLLUTION DEPOSIT AT EACH STATION—1949

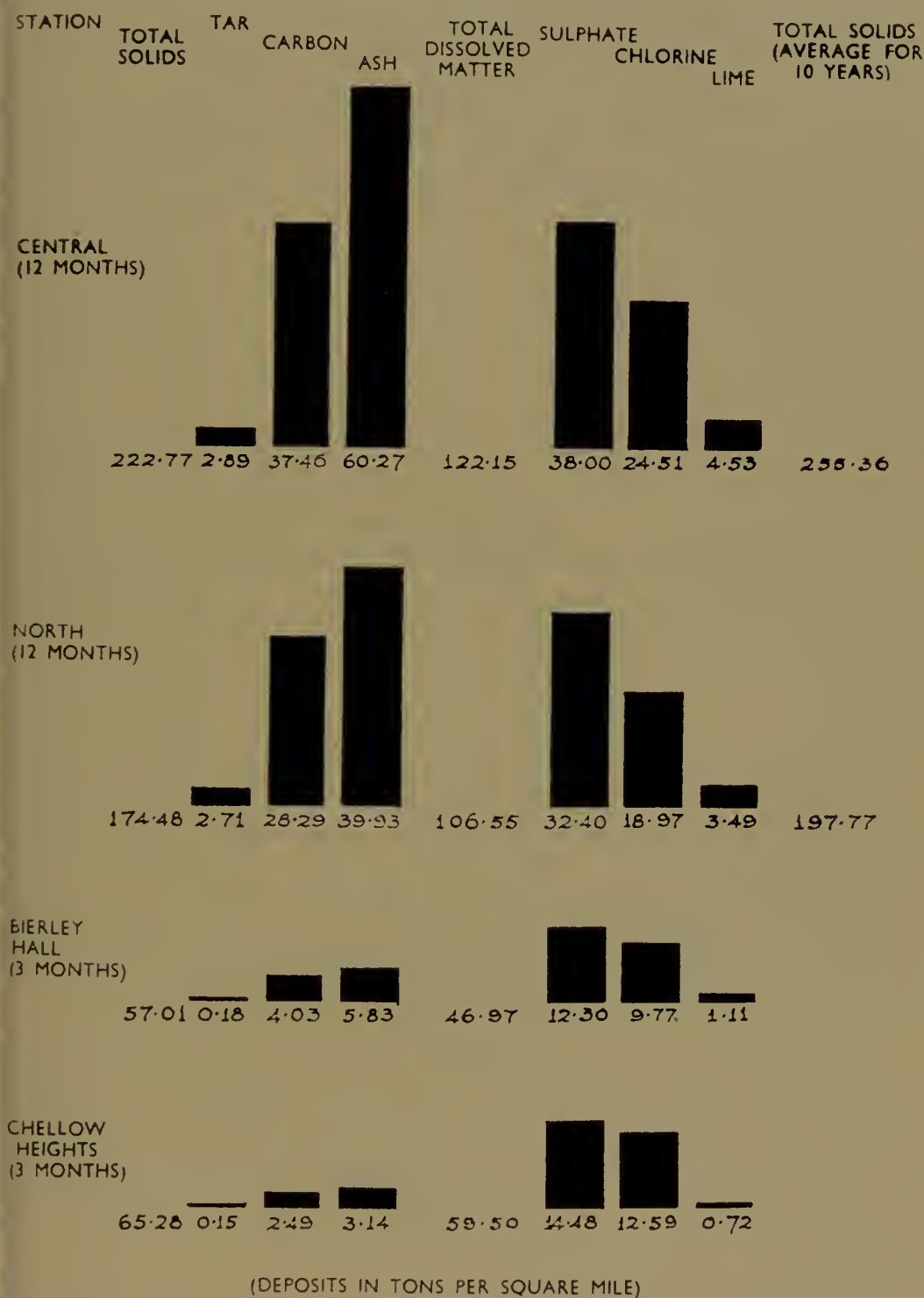


FIG. 20

when the (Smokeless Zones) Provisions of the Bradford Corporation Act, 1949 are implemented.

For the first time special observations were taken during the Bradford Holiday week and the results are included in the table below.

		Total Solids	Tar	Carbon	Ash	Undis. Matter	Dis. Mat.	Sulph.	Chlor.	Lime
<i>Central</i>										
Holiday Week	..	1.37	Nil	.06	.10	.16	1.21	.50	.20	Nil
Average weekly deposit for re- maining 3 weeks of August	..	8.29	.03	.89	1.28	2.21	6.08	2.11	.69	.12
<i>North</i>										
Holiday Week	..	.60	Nil	.07	.10	.17	.43	.14	.10	Nil
Average weekly deposit for re- maining 3 weeks of August	..	4.08	.04	.73	.83	1.59	2.48	.69	.29	.09

Rodent Control

During the year 1,005 complaints were dealt with. Of these 344 were infestations by mice and 512 were infestations by rats. Of this latter 5 were classed as major infestations.

Dealing first with the 1,000 minor infestations, 1,134 ounces of poison were consumed. The number of bodies found was 521, but with the system adopted only a percentage of the bodies are ever recovered, and, working on the formula laid down by the Ministry, it was estimated that 2,835 rodents were killed.

In dealing with the 5 major infestations, 35 pounds of bait were used and 81 ounces of poison were consumed. Forty-nine bodies were found and the kill estimated was 202.

Throughout the year work proceeded in regard to the rats in the public sewers. Originally the City was divided into 222 areas and during the year 33 of these areas were examined, baited and poisoned at every available manhole. Three thousand five hundred and nineteen manholes were baited and in these the estimated kill was 1,094.

On the instructions of the Ministry a 10 per cent test of Corporation sewers previously treated was carried out (these were the points

previously found to be heavily infested). In doing this 3,885 manholes were baited and the estimated kill was 2,835 rats.

In all this work the bait used was sausage rusk and in the vast majority of cases the poison used was zinc phosphide. Where a second treatment has been necessary kibbled wheat and arsenic have been used as alternatives. Sometimes red squill is used on poultry runs because of the danger of poultry gaining access to the bait if the other baits are used.

Ninety-eight routine visits were also made to Corporation properties where infestation is likely, viz., School dining centres and canteens, markets and abattoir, Tramway depot canteens and Corporation tips, etc., and infestations found were treated forthwith.

Post Mortem Examinations have been performed on numbers of rats and mice killed in the City during the year as a routine check on the bowel organisms which may be carried by these dangerous reservoirs of infection.

BRADFORD CORPORATION ACT, 1949

The Department was involved in much work preparatory to the Committee stage of the Bill which resulted in the passing of the above Act. Several Sections of the Act will be of great value to the Department.

Section 8 forms a useful extension of the demolition powers of the Housing Act, 1936 for it will enable us to clear all rubble resulting from the demolition of dwellings from the sites thereof, a matter which has been outside the scope of our powers in the past. Choked drains have always been a difficulty to the Department, and Section 10, which empowers the service of a notice requiring the cleansing of choked drains within 24 hours is considered to be a considerable advance on our previous practice. There are other similar matters in which we have some interest, but perhaps the outstanding item in the Act is the power which is given therein to the Corporation to declare areas of the City to be smokeless zones, as a result of which it will be possible to prohibit the use of bituminous fuel in such designated areas. It will be

obviously some little time before the full value of these powers will be felt, but it is hoped in the not far distant future to implement such a scheme in the central area and the plan of campaign will be gradually to build up on that area by the addition of contiguous zones.

In addition under part 9 of the Act, power is given to require the registration of establishments used for massage or special treatment. This will help to bring under control such premises as those of Chiropodists and all other persons who give electric treatment or any type of therapeutic treatment. Comparatively few local authorities have attempted this type of control and it is hoped that the measure will result in a great improvement in the conduct of such establishments.

Shops (Hours of Closing) Act, 1928

Shops (Sunday Trading Restriction) Act, 1936 and Retail Meat Dealers' Shops (Sunday Closing) Act, 1936

During visits and observations on Sundays no shopkeepers were found open. In 99 instances notices were not displayed stating for what purpose the shop was open. Nine shopkeepers were not keeping Form VII.

Nature of Offence								No. of Cases	No. of Warnings
<i>Shops Act, 1912:</i>									
Prescribed form relating to half holiday of assistants not displayed								136	136
Correct meal times not allowed to assistants								1	1
Half holiday not allowed to assistants								1	1
Notice of day of weekly half holiday not fixed								66	66
Shop open after closing hour on weekly half holiday								13	13
Hawking on weekly half holiday after hour fixed by Order								—	—
Shop open after closing hour fixed by Closing Order								25	25
Official copy of Closing Order not displayed in shop								—	—
Notices not displayed in mixed shops after closing hour								—	—
<i>Shops (Hours of Closing) Act, 1928:</i>									
Shop open after closing hour								13	13

Nature of Offence	No. of Cases	No. of Warnings
<i>Shops (Sunday Trading Restriction) Act, 1936:</i>		
Shop open for non-exempted sales	—	—
Notices not displayed stating purpose for which shop open ..	99	99
Without Form VII	9	9
Assistants employed on more than three Sundays in a month ..	—	—
Assistants not allowed a compensatory holiday	—	—

Retail Meat Dealers' Shops (Sunday Closing) Act, 1936:

Shop open on Sunday	—	—
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Shops Act, 1934:

Abstract relating to young persons not displayed. Forms H and J	27	27
Young persons employed more than 48 hours per week ..	1	1
Young persons employed in shop after being employed in factory for permitted hours	—	—
Without Schedule of Young persons hours—Form F	35	35
Without overtime record—Form G	—	—
Without notice relating to seats—Form K	128	128
Young persons employed overtime in excess of yearly limit ..	1	1
Overtime worked by young persons in more than 6 weeks ..	1	1
TOTALS	460	460

Summary of Inspections and Offences

Inspections

Number of shops on register	6,330
Number of shops visited where assistants are employed ..	1,176
Number of shops visited where young persons are employed ..	186
Total number of inspections	6,456

Water Supply

I am indebted to Mr. G. F. Renton, B.Sc., M.I.C.E., M.I.W.E., Water Engineer, for the following description of the Bradford Water undertaking.

All the Bradford Waterworks are gravitation works. The water is collected at such levels that it can be conveyed directly into the reservoirs for storage and supply. The sources of supply which are available are therefore more limited in extent than would be the case if the water were lifted from some lower level; but on the other hand the water is more free from pollution, and is softer and of better quality. The district of supply of the Bradford Waterworks is not confined to the City, but includes the following surrounding towns and places, viz.: wholly supplied: Addingham, Burnsall, Denholme, Pudsey, Queensbury and Shelf, and Spenborough; partially supplied: Baildon, Batley (Birstall), Bingley (Cottingley, Crossflatts, Cullingworth, Eldwick, Harden, Micklethwaite, Wilsden), Dewsbury, Morley (Drighlington, Gildersome), Shipley, and Silsden. The levels of the district of supply vary greatly, viz.: from 200 feet above the sea at Apperley Bridge, to 1,200 feet above the sea, at Queensbury, making a difference of 1,000 feet of elevation to be covered by the distribution of the water.

The supply is given in three separate services, called the high level service, the intermediate level or Nidd service, and the low level service.

The sources of supply for the low level service lie to the north and west of Bradford, in the valleys of the rivers Aire and Wharfe. Various streams, tributaries of these rivers, are taken into the reservoirs and conduits. These streams receive the water from a drainage area of 9,770 acres, 7,550 acres being in the Wharfe Valley, and 2,220 acres in the Aire Valley. There is no storage reservoir in the valley of the river Aire, so that part of the gathering ground cannot, at present, be fully utilised. Only the daily flow of the streams can at any time be taken, and none of the winter flow can be collected for summer use.

In the valley of the Wharfe there are three storage reservoirs, viz.: the Upper Barden, the Lower Barden, and Chelker Reservoirs.

The sources of supply for the high level service lie to the west of Bradford, in the valleys of the Denholme Beck and the river Worth, both tributaries of the river Aire. The drainage area of these streams is 2,569 acres, and the lowest level at which water is taken for supply is 1,030 feet above the sea.

The Nidd supply is drawn from the upper reaches of the rivers Nidd and Stone, which have their rise in Little Whernside, at the foot of Great Whernside, one of the spurs of the Pennine Mountain range, which district lies nearly thirty-five miles due north of the city. The water from this source of supply is stored in Angram and Scar House Reservoirs in the upper reaches of the Nidd, and conveyed to Bradford by an aqueduct which intercepts in its course certain streams, tributaries of the river Nidd. The drainage area of these rivers and streams available for the supply of the city is 15,530 acres. Nearly the whole of the gathering grounds from which the water for supply is drawn are high moorlands, above the reach of any pollution from populated districts. They range in elevation from 900 feet to 2,300 feet above the level of the sea.

The total acreage of the drainage areas available for the supply of the town is 27,869 acres, viz.: Low Level, Wharfe Valley, 7,550; Aire Valley, 2,220; total, 9,770 acres. High level, Denholme Valley and Worth Valley, 2,569 acres. Intermediate Level, Nidd Valley, 15,530 acres. Old Works: Many Wells Springs.

The raw water is typical from moorland catchment areas, being peat-stained with vegetable matter in suspension, and one of its important characteristics is its comparative softness.

In a town where the textile industry is predominant, and such trades as wool-washing, dyeing, bleaching, etc. are carried out, a soft water is absolutely necessary and in the particular case of Bradford is indispensable. The raw water from the moorland catchment at Thornton Moor, for example, is distinctly acid. This acidity is neutralised by the

addition of a solution of lime. In the case of the Nidd and Thornton Moor catchments the Corporation has acquired a considerable portion of the drainage area and has restricted agricultural operations as well as limiting persons residing thereon so as to safeguard the supply at the source from pollution.

The water collected from these sources is conveyed to the town by means of masonry and concrete conduits and steel and cast iron pipes. The length of the conduit from the Heaton Service Reservoir, at Bradford, to the Barden Reservoir is eighteen miles, and from the Barden Reservoir to the Sandbed Beck, at Burnsall, the most distant stream taken to the north, four miles. The length of the cast iron main from the Horton Bank Reservoir to the Stubden Reservoir, at Denholme, is five miles, and of the conduits, from the Stubden and Thornton Moor Reservoirs to the Bond Clough, at Haworth, the most distant stream taken to the west, about nine miles. The water from the Nidd Valley is conveyed through tunnels, aqueducts in cut and cover work, and cast iron and steel pipes. The length from the Scar House Reservoir to Chellow Heights Service Reservoir and Filtration Works is 32·10 miles. The whole of the works so far mentioned are for collecting and supplying water for the use of the city and other towns and places previously mentioned.

All waters are filtered and sterilised before passing into supply and are tested daily before and after treatment to guard against the possibility of plumbo solvency and the presence of harmful bacteria. Samples of treated water are taken and tested direct from kitchen taps throughout the city.

There are five filtration works dealing with the water supplied to the three levels; at these works purification by slow sand filters or mechanical filtration requiring the addition of sulphate of alumina as a coagulant is practised; sterilisation in all cases is secured by chlorination.

Other reservoirs, with separate drainage areas, amounting to 24,742 acres, have been made for compensation water to the various mills and streams which are affected by the taking of the town supply,

viz.: the Grimwith Reservoir, at Hartlington, for giving compensation water for that which is taken from the streams in the valley of the river Wharfe; the Silsden Reservoir, at Silsden, for the low level works in the valley of the river Aire; the Hewenden Reservoir, at Hewenden, for the old supply of the Many Wells Springs; the Doe Park Reservoir at Denholme, for the high level works in the Denholme Valley; the Leeming and Leeshaw Reservoirs, at Oxenhope, for the streams taken in the valley of the river Worth, and the Gouthwaite Reservoir, for the streams taken in the Nidd Valley.

The total storage capacity of the reservoirs is 7,900 million gallons, of which 2,900 million gallons are reserved for compensation supplies.

Sewage Disposal

I am indebted to Mr. W. H. Hillier, M.Eng., M.I.C.E., F.INST.S.P., Sewage Engineer, for the following description of sewage disposal.

An efficient system of sewage disposal is a vital factor in maintaining the health of a large community. In Bradford this responsibility is borne by the Sewage Committee, whose duty is to carry out the provisions of the many statutes in force relating to the purification of sewage, the control of the discharge of industrial wastes, and the prevention of pollution in the City's streams and rivers.

The sewage of any city is partly "domestic" and partly "trade" sewage. The domestic sewage is the dirty water run off from the thousands of sinks, wash basins, baths and water closets in the city. Trade sewage is the waste water from factories and mills, discharged after it has done its work in various industrial processes. In Bradford the volumes of domestic and trade sewage are about equal, and together they amount to some sixteen million gallons a day. In times of storm, the volume of sewage is greatly increased by the addition of rainwater reaching the sewers through street gullies.

Before modern methods of sewage disposal were adopted, all this waste water was discharged untreated into the streams, giving rise to conditions of appalling filth and smell, and contributing largely to the high incidence during the nineteenth century of water-borne diseases such as cholera and typhoid.

Today, the sewage from houses and factories is taken through soundly-constructed drains into the pipe-sewers which run under every street and roadway. These, in turn, connect with larger branch and main sewers, and finally all the sewage of the City is collected into a main outfall sewer leading to the purification works. The network of sewers in Bradford is under the care of the City Engineer's Department, and all new drainage *connections are carefully inspected* before being brought into use.

The larger part, amounting to about 90 per cent, of the City's sewage, is dealt with at the main works at Esholt, situated on the river Aire,

about five miles north east of the City centre. A smaller works at North Bierley treats the sewage from the remaining part of the southern area. The main object of the treatment works is to convert the sewage into clean water which can be discharged into the river without causing any nuisance.

Bradford is the world centre of the wool scouring and combing industry, and because of the great volumes of wool fat and dirt washed from the fleeces during scouring, the sewage in Bradford is particularly difficult to treat; indeed, up to the beginning of the present century it was often described as untreatable. The development, however, of the acid precipitation process, first at the old works at Frizinghall, and subsequently at Esholt, has satisfactorily solved this problem.

The sewage treatment works were largely completed by 1932 after having cost more than £2,500,000. The main features of the works are the precipitation plant, the biological filters, and the sludge processing plant. The sewage, reaching the works through a ten feet diameter tunnel, is acidified in order to "crack out" the grease, which is then settled, together with any solid matter, as a sludge in the precipitation tanks. The top liquid from the tanks is treated biologically on filter beds and is discharged as a clear effluent, quite free from offence, into the river Aire about half a mile upstream of Apperley Bridge.

The grease-containing sludge, after heat and acid treatment, is filter-pressed, the grease thus being separated from the solid residue. This residue, rich in organic matter, is prepared as a powdered fertiliser, which has proved particularly valuable in agriculture as it can be guaranteed free from pathogenic bacteria or weed seeds. The Esholt Works is the largest producer of organic fertiliser in the country.

The recovered grease, amounting to some thirty tons a day, which otherwise would have gone to pollute the river, is clarified and manufactured into 14 different products. These are sold to many industries in this country and abroad, and bring in an income amounting to about £250,000 a year.

The processes employed at Esholt are necessarily costly; but fortunately the income from the sale of fertilisers, grease and other

by-products goes far towards meeting this heavy cost and thus relieving the burden on the ratepayers. The processes employed are unique and the manufacture of by-products has no parallel anywhere in the world.

It should not, however, be lost sight of that the earning of income is a secondary consideration of the Sewage Department; its main function is to provide one of the most important public health services of the City.

Section 5

Inspection and Supervision of Food and Food Premises

CLEAN FOOD CAMPAIGN

MILK SUPPLY

FOOD SAMPLING

MEAT INSPECTION

ICE CREAM

PHARMACY AND POISONS ACT,
1933

Inspection and Supervision of Food and Food Premises

F. H. MYERS M.R.S.I., M.S.I.A., *Chief Sanitary Inspector*

Since the war the press have given more prominence to the hygienic handling of food than ever before and this has resulted, along with the steady propaganda of local authorities, in awakening an interest on the part of the general public in the necessity of supplying food to the consumer free from any organisms likely to give rise to disease.

It has been our endeavour to raise all premises where food is handled, stored or sold to a standard in conformity with the requirements of the Food and Drugs Act, 1938. Much progress has been made in developing a supply of ice cream manufactured and distributed in accord with the terms and conditions of the Ice Cream (Heat Treatment) Regulations of 1917.

The transport of meat from the abattoir to the shops has not been satisfactory, but the Ministry of Food are responsible and improved vehicles are promised.

In Bradford food inspection is carried out by specialist inspectors, and the following paragraphs explain the results of their work during the year.

The work in regard to milk production and distribution was radically altered by the introduction of new legislation which became operative on 1st October 1949, and the effect of this will not be seen until next year.

The Food and Drugs Act, 1938, came into operation on the 1st October 1939, but could not be implemented because of the war. It was not possible to fill the many staff vacancies in the Department until late 1948.

Clean Food Campaign

The basis of the campaign was the survey of all premises in the City where food is handled, stored and sold.

The survey has been comprehensive and, in addition to shops, the hotels, restaurants, bakehouses, manufacturing premises and industrial canteens have been visited.

It was decided to place all premises in one of three categories: good, fair or bad. Generally the standard was found to be better than was at first anticipated, but in many cases it was necessary to ask for decorations or improvements and during the year 118 notices have been served and 413 letters sent requiring lavatory accommodation, washing facilities, redecoration and repairs to food premises.

Of the 3,712 premises visited, 2,155 premises were classed as "Good;" 1,556 premises were classed as "Fair," and action was taken to improve them to the "Good" standard. One bakehouse was found to be "Bad" and consequently, legal proceedings were instituted on six charges under Section 13 of the Food and Drugs Act, 1938, which resulted in the imposition of the maximum fines allowed under the Act, namely £120, plus £12 12s. 0d. costs.

Many premises have been visited more than once in the year and improvement in some cases has already been noted. In all 5,474 visits were made to food premises during the year. The various trades and grades are as follows:

Trade	Grading at Time of First Visit			Graded from "B" to "A" on Re-visit
	"A"	"B"	"C"	
Bakers	210	119	1	67
Butchers	231	164		3
Confectioners	283	68		24
Fish, Fruit and Game	186	157		42
Grocers	565	488		166
Public Houses	217	127		23
Restaurants and Cafes	162	95		43
Tripe	19	4		2
Ice Cream and Drinks	5	1		
Fish Friers	58	238		
Potato Crisp Manufacturers	2	4		
Industrial Canteens	219	91		

It is interesting to note that 4,098 males and 4,395 females are employed in the handling of food.

With regard to the staffing of industrial canteens 102 males and 1,027 females are employed, and prepare daily 30,509 main meals, an average of one employee to every 26·14 meals prepared. Some firms charge for these meals according to age and some have a flat charge, the price varying from 4d. to 1s. 4d.

Further details of the inspections carried out under the Food and Drugs Act, 1938, Section 13, and Shops Act, 1934, Section 10, will be found in the Appendix.

Continued vigilance has been exercised on premises throughout the City to ensure the enforcement of the Merchandise Marks Act, 1926.

Milk Supply

The total amount of milk consumed daily in the City was about 21,000 gallons. The amount of milk produced by 268 dairy farms in the City was about 8,000 gallons per day, whilst about 13,000 gallons came into the City by road, and most of this was processed before distribution. There are 488 cowsheds within the City and much improvement has been effected within recent years in their structure and equipment, and farmers now realise that the production of consistently clean milk is with care and sound methods comparatively easy. The improvement in cowsheds carried out is shown in the following summary.

SUMMARY OF DEFECTS REMEDIED 1948—1949

	1948	1949
Floors	6	3
Light and ventilation	3	—
Drainage	8	7
Milk-rooms provided	6	1
Milk-rooms altered	5	3
General repairs	11	12
Rooms added for sterilization purposes ..	8	4
Roof repairs	—	3
Cowsheds reconstructed	9	8
New Cowsheds built	—	2

Total number of visits to farms was 432.

Food and Drugs Act, 1938; Milk and Dairies Order, 1926, Milk and Dairies Regulations, 1949

Seven hundred and forty-six samples of milk were taken for biological examination and tubercle bacillus was isolated from 11 of them. In the case of positive samples the Ministry of Agriculture's Veterinary Inspectors were notified with a view to examination of the herd. Affected animals were sent in for slaughter. From the 1st October, 1949 important new powers were given for enforcing the heat treatment of milk supplies found to be infected with tubercle bacillus, until the milk was known to be clear. Two notices were served under these new powers during the last three months in the year, and it is hoped that this will be a most effective factor in helping to rid the whole of the City of tuberculous milk.

There were at the end of the year 279 vendors of milk registered and residing within the city. These may be classified as follows:

Cowkeepers and retailers	.. .. .	123
Retailers only (in street or from their homes)	..	} 156
Milkshops (including dairies, confectioners, small grocers and other shops)	.. .. .
Shops where milk is sold in sealed bottles only	..	606

The number of visits made to these premises was 266, and generally the premises were found to be in a satisfactory state.

In addition to the 279 vendors residing within the City, 37 dairymen came into the City from surrounding districts to sell milk by retail.

During the year 8 cow-keepers and 17 retail purveyors of milk were registered.

Milk (Special Designation) Regulations

During the year 95 farms were producing Accredited milk and 71 farms producing Tuberculin Tested Milk, licences being issued in respect of each.

Four licences to pasteurise milk and one licence to sterilise milk were granted. Approximately 11,000 gallons of milk were processed in the City daily.

Chemical Examination of Milk

Four hundred and sixty-nine samples were analysed. The results show that 8 of the samples gave an analysis under 3·0 per cent of fat, and 271 over 3·5 per cent of fat; while 58 of these samples gave an analysis under 8·5 per cent of non-fatty solids. The total below both 3·0 per cent of fat and 8·5 per cent of non-fatty solids was 3. The adulterations were small and no prosecutions were undertaken, but warnings were issued in each case.

Bacteriological Examination of Milk

Samples of raw milks were taken regularly at the Bradford farms and from milks delivered to the processing dairies. The latter were chiefly from farms outside Bradford.

In the cases of unsatisfactory samples the Bradford farms were visited and measures taken to effect an improvement in the cleanliness of the milk handling. Where an unsatisfactory sample from a farm outside Bradford was obtained, a request was made to the enforcing authority for that area to take similar action.

Samples Taken	B. Coli 0·01 ml.		Methylene Blue Reductase Test	
	Absent	Present	Pass	Fail
752 ..	432	152	514	238

Samples of heat-treated milk were taken regularly and included milk processed at dairies both in Bradford and outside.

In the cases of unsatisfactory samples the Bradford Dairies were visited and investigations made into the methods of milk handling and cleansing and sterilisation of equipment. When an unsatisfactory sample from a dairy outside Bradford was obtained a request was made to the enforcing authority for that area to take similar action.

Class of Milk Tuberculin Tested	Number of Samples	Phosphatase Test		Methylene Blue Reductase Test		Turbidity Test	
		Pass	Fail	Pass	Fail	Pass	Fail
Pasteurised ..	106	98	8	97	9	—	—
Pasteurised ..	160	152	8	141	19	—	—
Sterilised ..	7	4	—	4	—	3	—
Heat Treated ..	66	66	—	61	5	—	—

Food Sampling

The Food and Drugs Act, 1938, and the Public Health (Preservatives, etc. in Food) Regulations

The number of samples of food and drugs taken under these Acts and submitted to the Public Analyst for analysis by the sampling officer was 789. Of these 761 were certified as genuine, and 28 adulterated or doubtful.

In the majority of cases the adulterations were small and the vendors were cautioned. In three cases, however, it was considered that the institution of legal proceedings was warranted and in each a conviction was obtained under the Food and Drugs Act, 1938. The manufacturers of the food were fined in each case, the amounts being:

- (a) £10 fine.
- (b) £5 fine and £5 5s. costs.
- (c) £10 fine and £10 10s. costs.

A table showing the number of samples procured and examined during 1949 will be found in the Appendix.

Sampling was also carried out under the Fertilisers and Feeding Stuffs Act, 1926, various meals and fertilisers being submitted to the City Analyst. With one exception the analysis of these samples showed that their constituents conformed with the particulars as set out in the Statutory Statement and were in accordance with the provisions of the Act.

The unsatisfactory sample was deficient in phosphoric acid. The matter was taken up with the manufacturers by the Authority within whose area the factory was situate.

Handling, Wrapping and Delivery of Food

During the year advantage was taken of the powers contained in Section 15 of the Food and Drugs Act, 1938, to submit to the Ministry bye-laws designed to control the handling, wrapping and delivery of food, and these bye-laws were confirmed by the Ministry of Food on the 1st October 1949.

Meat Inspection

The general working of the Abattoirs is carried out in a reasonably satisfactory manner although the buildings are not of a modern type. The construction of a new Abattoir is contemplated and is to be considered in the light of future Government policy in connection with the Meat Industry.

Figures in the Appendix show that Tuberculosis in cattle as well as Distomatosis or Liver Rot in sheep and cattle are the most prevalent diseases found. Because of the increasing incidence of *Cysticercus bovis* in cattle all masseter muscles are examined as a matter of routine and all affected carcasses are placed in cold storage for 21 days at a temperature of 14°F.

Few animals were found dead in lairage and in most cases death resulted from travel exhaustion. Eight such carcasses were found to be unfit for food. During the year no cases of notifiable disease were found in the Abattoir. Twenty-four cows were killed under the Tuberculosis Order, 1938. In nearly all these cases the cows had been found to be giving tuberculous milk through routine sampling of milk. In addition a small number of animals were killed under the Tuberculosis Order at the local knackers yard. All slaughtering was carried out by means of mechanical apparatus, excluding sheep intended for the Mohammedan population, which were killed by the rule of Moslem law, and averaged 3 per week. No animals were slaughtered in Bradford according to the Jewish method. The majority of calves killed were used for manufacturing purposes, e.g. pressed veal, pies, etc., and were in most cases less than one week old. Greater incentive should be offered to farmers to keep these animals for at least two weeks.

While it is regretted that the transport of meat is at present unsatisfactory, it is hoped that the ensuing year will see considerable improvement in the provision of new and better types of covered vehicles, in which the meat can be hung.

Other Foods

Supplies of fish, fruit and vegetables were regularly inspected throughout the year in the St. James's Wholesale Market, the wholesale fish warehouses and retail shops.

Certain foods were found, after inspection, to be unfit for human consumption, and by arrangement with the Corporation Cleansing Department, such of the produce as was fit for the purpose was converted into animal feeding stuffs. Details regarding this condemned food will be found in the Appendix.

Ice Cream

During recent years ice cream has changed from being a seasonal delicacy to a regular article of diet throughout the year. In consequence, much attention has been paid to the conditions under which it is manufactured and sold, as this product is a favourable nidus for the growth of bacteria. Many visits of inspection were made, and new plant ordered as a result of recommendations made is estimated to be of the value of £25,000. This plant was necessary in order that manufacturing premises could be brought to the standards laid down in the Ice Cream (Heat Treatment) Regulations, 1947.

Bacteriological Examination

The Medical Research Council in conjunction with the Ministry of Health, have recommended a form of methylene blue test adopted for testing ice cream, defining four grades of bacterial cleanliness of which Grade I is the highest standard. Grade I is specified where the time taken to decolorise the methylene blue is above $4\frac{1}{2}$ hours, Grade II where the time is between $2\frac{1}{2}$ –4 hours, Grade III is $\frac{1}{2}$ –2 hours and Grade IV is 0 hours.

Three hundred and eight samples were submitted for examination during the year and they were graded as follows:

No. of Samples	Provisional Grade
133	Grade I
64	Grade II
49	Grade III
62	Grade IV
<hr/>	
308	

All samples in Grades III and IV were followed up, plant was examined, methods of handling investigated and improvements effected.

Chemical Examination

During 1949 although there was no prescribed legal standard of composition for ice cream, 42 samples were submitted to the Public Analyst for chemical examination, and the results of this analysis are tabulated below.

Fat Content of Samples, 1949.

Fat	Under 2½%	2½-4%	4-5%	5-6%	6-7%	7-8%	8-9%	9-10%	10-11%	11-12%	Above 12%	Total
No. of Samples	2	5	8	6	8	7	1	1	1	1	2	42

Pharmacy and Poisons Act, 1933

Poisons Rules, 1935

The number of applications for entry on the List of the Local Authority under the above Act was 661. The following table sets out the number of persons entered according to the respective trades. Each of the premises were inspected when applications were received.

Number	Nursery-men	Hardware Dealers	Herbalists	Hair-dressers	Grocers and General	Photography
661	9	63	13	12	563	1

Section 6

Appendix

Table I *Vital Statistics of Whole District during 1949 and Previous Years*

Year	Popu- lation estimated to Middle of each Year	BIRTHS		TOTAL DEATHS REGISTERED IN THE DISTRICT		TRANSFERABLE DEATHS		NET DEATHS BELONGING TO THE DISTRICT		
		Un- corrected Numbers	NET Number	Rate	Number	Rate	of Non- registered in the District	of Residents not registered in the District	Under 1 Year of Age	At all Ages
									Rate per 1,000	Rate
					Number	Rate			Number	Net Births
1943 ..	260,300	4,345	4,157	14.46	4,343	16.68	376	183	213	51 4,150 14.43
1944 ..	261,890	4,823	4,645	16.15	4,230	16.16	447	151	249	53 3,934 13.61
1945 ..	262,660	4,313	4,136	15.84	4,169	15.87	423	156	271	65 3,902 14.90
1946 ..	279,040	5,871	5,404	19.39	4,319	14.46	471	135	265	49 4,035 14.4
1947 ..	284,900	6,473	6,334	22.23	4,288	14.73	494	151	380	54 4,439 15.58
1948 ..	288,500	5,599	5,439	18.85	3,871	13.41	467	145	235	43 3,871 13.41
1949 ..	291,600	5,344	5,048	17.3	4,637	15.9	592	178	191	37 4,223 14.50

Table II

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NOTIFIABLE DISEASE		CASES NOTIFIED IN WHOLE DISTRICT							TOTAL CASES NOTIFIED IN EACH LOCALITY																				
		At all Ages		At Ages—Years					Allerton	Bolton	Bradford Moor	Clayton	East Bowling	Eccleshill	Exchange	Great Horton	Heaton	Idle	Listerhills	Little Horton	Manningham	North Bierley E	North Bierley W	North East	South	Thornthorn	Tong	West Bowling	
Under 1	1—5	5—15	15—25	25—45	45—65	Over 65	Under 1	1—5																					5—15	15—25	25—45	45—65	Over 65
Smallpox	..	—	—	—	—	—	—	—	—	—	—	—	—	—	17	—	1	—	—	—	—	—	—	—	—	—	—	—	
Diphtheria	..	19	—	13	5	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Erysipelas	..	101	3	1	5	3	23	47	19	—	—	—	—	—	3	6	5	4	8	2	7	4	8	12	3	6	5	7	
Scarlet Fever	..	531	6	193	288	23	20	1	—	28	36	17	17	44	24	23	26	40	31	23	42	3	19	31	19	38	—	—	
Enteric Fever	..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Puerperal Pyrexia	..	23	—	—	—	13	10	—	—	2	—	—	—	—	1	—	—	—	10	3	1	2	—	2	—	—	—	—	
Cerebro-Spinal Meningitis	..	12	—	9	2	—	—	1	—	2	—	1	—	1	—	3	—	2	—	—	—	1	—	—	—	—	—	2	
Poliomyelitis	..	29	—	8	6	8	5	2	—	3	1	2	1	3	2	—	4	—	1	1	—	2	1	2	1	1	1	2	
Ophthalmia Neonatorum	..	16	16	—	—	—	—	—	—	—	—	—	2	2	2	—	—	—	2	1	—	—	—	2	1	2	1	1	
Measles	..	3,406	159	2,246	971	21	5	4	—	148	93	192	203	168	161	137	146	218	93	111	195	234	186	259	140	115	118	208	
German Measles	..	190	12	75	98	2	2	1	—	19	6	6	17	4	8	7	11	22	4	7	6	23	9	16	6	3	6	2	
Whooping Cough	..	347	44	227	70	2	3	1	—	3	13	15	16	15	10	10	25	12	12	33	27	26	9	48	8	15	6	22	
Chicken Pox	..	1,268	39	462	734	19	12	2	—	39	23	74	55	97	78	38	79	26	53	41	117	29	35	112	86	111	12	55	
Pulmonary Tuberculosis	..	276	2	6	18	68	98	75	9	11	18	13	6	11	9	17	10	13	7	18	25	17	15	8	28	16	12	7	
Other forms of Tuberculosis	..	83	1	18	29	17	9	7	2	3	3	7	4	3	3	7	2	6	3	9	9	3	4	3	3	2	4	2	
Infective Enteritis	..	167	87	46	11	5	9	6	3	2	7	3	6	12	5	10	3	14	3	16	39	8	5	15	5	3	3	5	
Anthrax	..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Polio-encephalitis	..	3	—	2	1	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	2	
Encephalitis Lethargica	..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Pneumonia	..	445	58	84	33	27	57	102	84	10	16	12	18	17	7	28	13	6	10	26	56	13	38	47	37	40	25	9	
Malaria	..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Dysentery	..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Totals	..	6,916	127	3,800	2,271	209	253	240	117	274	208	341	360	372	308	297	342	351	217	294	532	302	336	565	323	334	225	336	511

Table III *Causes of Death at Different Periods of Life during the Year 1949*

Causes of Death	All Ages												75 and upwards
	0 to 1	1 to 2	2 to 5	5 to 15	15 to 25	25 to 30	35 to 45	45 to 55	55 to 65	65 to 75	75 and upwards		
All Causes...	191	11	20	24	40	76	119	334	658	1,272	1,469		
Typhoid and Paratyphoid	..	..	..	..	..	..	..	..	..	..	..
Measles ..	2	1	..	..	..	..	..	..	..	..	..
Scarlet Fever ..	1	..	..	1	..	..	..	..	..	..	..
Whooping Cough ..	..	..	..	..	1	1	2	1	..	..	..
Poliomyelitis ..	7	..	2	..	1	..	..	..	..	..	..
Diphtheria...	..	..	2	..	..	..	..	2	11	35	28
Influenza ..	76	..	..	..	..	..	..	..	..	..	1
Encephalitis Lethargica ..	..	..	..	..	..	..	..	..	..	..	..
Meningitis (Non Tubercular)	5	..	..	..	..	..	..	..	..	..	..
Cerebro Spinal Fever ..	3	2	..	..	..	..	1	..	..	..	..
Tuberculosis of Respiratory System	119	..	..	..	17	20	21	24	19	16	2
Other Tuberculous Diseases	22	1	2	5	4	1	..	2	1	2	2		
Syphilis ..	21	..	..	..	..	1	..	3	8	6	3
Cancer, Malignant Disease	580	..	1	1	1	4	16	74	126	223	134		
Diabetes ..	19	..	..	..	..	1	..	1	6	5	6
Cerebral Haemorrhage, etc.	527	..	..	..	..	2	4	30	79	187	225
Heart Disease ..	1,326	1	..	3	1	9	30	79	202	439	562		
Other Circulatory Diseases	183	..	1	..	1	..	4	7	15	60	96		
Bronchitis...	263	4	2	1	1	3	5	23	52	92	84		
Pneumonia (All forms)	204	36	7	2	..	2	5	16	35	79	54		
Other Respiratory Diseases	75	..	..	..	..	1	..	..	5	13	56
Peptic Ulcer ..	35	..	..	..	..	..	1	5	8	12	9
Diarrhoea, etc. ..	32	10	1	1	..	..	..	2	4	4	1
Appendicitis ..	6	..	..	..	..	..	2	3	..	..	1
Cirrhosis of Liver...	5	..	..	..	..	..	..	2	2	1	..
Other Diseases of Liver, etc.	..	..	..	..	..	..	..	..	..	..	..
Acute Digestive Diseases	67	1	..	..	1	4	3	5	13	18	22
Acute and Chronic Nephritis	63	..	1	1	1	2	3	3	17	17	18		
Puerperal Sepsis ..	1	..	..	..	..	..	1	..	..	..	..
Other Puerperal Causes ..	6	..	..	..	..	4	2	..	..	..	..
Congenital Debility, Premature Birth, Malformations, etc. ...	113	..	..	..	..	..	..	..	..	..	..
Senility ..	..	..	..	..	..	..	..	..	..	..	..
Suicide ..	41	..	..	..	2	3	6	9	8	10	3
Other Violence ..	130	1	5	4	7	6	8	7	15	21	61		
Other Defined Diseases ..	236	3	4	5	4	12	5	36	33	32	111		

Table IV *Public Health (Tuberculosis) Regulations 1930**Summary of Notifications during the period from 1st January 1949 to the 31st December 1949*

Age Periods	NUMBER OF NOTIFICATIONS ON FORM A											Total Notifications (i.e., including cases previously notified by other doctors)		
	Primary Notifications													
	0 to 5	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards			
Pulmonary:														
Males	..	2	6	3	4	16	17	25	19	38	27	5	162	175
Females	..	0	1	1	9	13	22	40	14	5	5	4	114	123
Non-pulmonary:														
Males	..	1	13	6	5	3	3	3	2	4	1	1	42	49
Females	..	—	10	8	5	2	9	4	—	2	—	1	41	45

Table V *Vital Statistics in Bradford from 1919*

Year	Population	Birth Rate	Death Rate	Zymotic Death Rate	Infantile Mortality Rate
1919	.. *282,714	13.40	16.27	0.31	113
1920	.. 293,979	20.52	13.31	0.42	93
1921	.. 291,100	19.57	13.72	0.66	109
1922	.. 291,300	17.92	14.02	0.36	87
1923	.. 290,800	18.19	13.75	0.48	78
1924	.. 290,200	16.94	14.86	0.31	92
1925	.. 290,200	16.63	13.97	0.65	95
1926	.. 288,700	16.31	13.58	0.47	92
1927	.. 293,200	14.73	14.57	0.52	92
1928	.. 288,500	15.32	13.60	0.38	69
1929	.. 289,200	15.03	15.66	0.50	80
1930	.. 293,254	14.92	13.45	0.44	75
1931	.. 300,900	13.56	14.21	0.24	71
1932	.. 296,300	13.56	13.89	0.26	75
1933	.. 295,100	13.22	14.68	0.32	79
1934	.. 293,650	13.68	13.35	0.34	62
1935	.. 292,200	13.55	14.28	0.38	64
1936	.. 290,500	13.42	14.93	0.43	82
1937	.. 289,510	13.85	14.64	0.34	69
1938	.. 288,700	13.51	13.76	0.26	58
1939	.. 287,500	12.42	14.91	0.19	61
1940	.. *271,700	12.81	15.85	0.20	68
1941	.. *270,310	12.35	14.81	0.18	68
1942	.. *264,800	13.90	13.29	0.20	50
1943	.. *260,300	14.46	14.43	0.18	58
1944	.. *261,890	16.15	13.61	0.17	53
1945	.. *262,660	15.84	14.90	0.19	65
1946	.. *279,040	19.39	14.46	0.15	49
1947	.. 284,900	22.23	14.73	0.30	59
1948	.. 288,500	18.84	13.41	0.14	43
1949	.. 291,600	17.3	14.50	0.12	37

* Civil Population

Table VI *Infant Mortality, 1922-49*

				Deaths under 1 Year of Age per 1,000 Births		
Year				Total	Diarrhoeal Diseases	Total less Diarrhoeal Diseases
1922	..	..	..	87	4	83
1923	..	..	..	78	4	74
1924	..	..	..	92	6	86
1925	..	..	..	95	7	88
1926	..	..	..	92	13	79
1927	..	..	..	92	7	85
1928	..	..	..	69	6	63
1929	..	..	..	80	5	75
1930	..	..	..	75	5	70
1931	..	..	..	71	5	66
1932	..	..	..	75	6	69
1933	..	..	..	79	8	71
1934	..	..	..	62	4	58
1935	..	..	..	64	5	59
1936	..	..	..	82	9	73
1937	..	..	..	69	7	22
1938	..	..	..	58	5	53
1939	..	..	..	61	7	54
1940	..	..	..	68	4	64
1941	..	..	..	68	6	62
1942	..	..	..	50	4	46
1943	..	..	..	51	3	48
1944	..	..	..	53	4	49
1945	..	..	..	65	9	54
1946	..	..	..	49	6	43
1947	..	..	..	59	10	49
1948	..	..	..	43	5	38
1949	..	..	..	37	4	33

Table VII *Infant Mortality, 1949. Net Deaths from Stated Causes at Various Ages under 1 Year of Age*

CAUSES OF DEATH			Under 1 Week	1—2 Weeks	2—3 Weeks	3—4 Weeks	Total Under 1 Month	1—3 Months	3—6 Months	6—9 Months	9—12 Months	Total Deaths Under 1 Year
Smallpox .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Chicken-pox .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Measles .. ..	..	..	—	—	—	—	—	—	—	1	1	2
Scarlet Fever .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Whooping Cough .. ..	..	..	—	—	—	—	—	1	—	—	—	1
Diphtheria and Croup .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Erysipelas .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Tuberculous Meningitis .. ..	..	..	—	—	—	—	—	—	—	—	2	2
Tuberculosis of Intestines and Peritoneum .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Other Tuberculous Diseases .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Meningitis (<i>not Tuberculous</i>) .. ..	..	..	—	—	—	1	1	—	1	2	1	5
Convulsions .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Laryngitis .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Bronchitis .. ..	..	..	—	—	—	—	—	3	—	1	—	4
Pneumonia (all forms) .. ..	..	..	4	3	3	4	14	11	6	4	1	36
Diarrhoea and Enteritis .. ..	..	..	—	—	1	—	1	8	7	3	—	19
Gastritis .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Syphilis .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Rickets .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Suffocation, overlying .. ..	..	..	—	—	—	1	1	2	2	—	—	5
Atelectasis .. ..	..	..	12	—	—	—	12	1	—	—	—	13
Congenital Malformations .. ..	..	..	20	1	1	—	22	5	5	1	—	33
Premature Birth .. ..	..	..	42	2	1	1	46	1	—	—	—	47
Atrophy, Debility and Marasmus .. ..	..	..	6	—	1	—	7	6	4	—	—	17
Other Causes .. ..	..	..	1	—	—	—	1	1	3	—	—	5
Encephalitis .. ..	..	..	1	—	—	—	1	1	—	—	—	2
All Causes .. ..	..	..	86	6	7	7	106	40	28	12	5	191

Table VIII *Infant Mortality. Net Deaths from Stated Causes under 1 Year of Age from 1940*

Causes of Death			1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Chicken-pox .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Measles .. ..	..	..	—	1	3	2	1	2	—	3	2	2
Scarlet Fever .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Whooping Cough .. ..	..	..	1	4	8	5	5	—	3	3	3	1
Diphtheria and Croup .. ..	..	..	—	—	—	1	—	2	1	—	—	—
Erysipelas .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Tuberculous Meningitis .. ..	..	..	1	2	1	—	1	3	—	1	2	2
Abdominal Tuberculosis .. ..	..	..	—	—	—	1	—	—	—	1	—	—
Other Tuberculous Diseases .. ..	..	..	—	—	1	—	—	—	—	2	—	—
Meningitis (not tuberculous) .. ..	..	..	1	2	2	3	1	2	1	4	1	5
Convulsions .. ..	..	..	19	8	10	7	9	6	4	4	3	—
Laryngitis .. ..	..	..	1	—	—	—	—	—	—	—	—	—
Bronchitis .. ..	..	..	15	14	9	6	7	10	4	7	4	4
Pneumonia (all forms) .. ..	..	..	46	32	27	46	45	49	38	74	44	36
Diarrhoea and Enteritis .. ..	..	..	17	21	17	14	17	41	25	64	27	19
Gastritis .. ..	..	..	—	—	1	—	—	1	—	—	—	—
Syphilis .. ..	..	..	—	1	—	—	—	1	—	—	—	—
Rickets .. ..	..	..	—	—	—	—	—	—	—	—	—	—
Suffocation (overlying) .. ..	..	..	4	2	—	—	1	1	1	7	23	5
Atelectasis .. ..	..	..	1	6	8	11	6	10	15	12	6	13
Congenital Malformations .. ..	..	..	29	31	19	17	19	19	57	57	35	33
Premature Birth .. ..	..	..	61	82	57	58	88	64	80	77	66	47
Atrophy, Debility and Marasmus .. ..	..	..	13	5	11	11	14	18	6	24	15	17
Other Causes .. ..	..	..	34	27	23	27	31	34	18	14	4	7
Total .. ..	..	..	251	242	206	213	219	271	265	380	235	191

Table IX *Cases of Poliomyelitis notified in 1949*

Ward	1947	1948	1949	Total 1947-49	Persons per acre	Attack rate per 1,000 population
Idle	3	—	2	3	3·7	·454
Thornton ..	4 (1)	1	1	6 (1)	4·2	·500
Tong	5	—	1	6	4·7	·43
North Bierley E.	7	—	2 (1)	9 (1)	5·1	·562
Clayton	2	—	—	2	5·6	·200
Allerton	1	—	2	3	6·3	·200
Bolton	5	1	1 (1)	7 (1)	11·6	·583
Eccleshill ..	5 (1)	—	2	7 (1)	13·5	·467
North Bierley W.	3	—	1	4	15·0	·235
Heaton	6	1	—	7	16·5	·482
Great Horton ..	6	1	3 (1)	10 (1)	19·1	·625
West Bowling ..	4	1	4 (2)	9 (2)	19·4	·545
East Bowling ..	8	—	4 (1)	12 (1)	24·9	·857
North East ..	1	1	2	4	25·3	·285
Listerhills ..	5	—	1	6	28·4	·400
Exchange ..	6	—	—	6	30·0	·461
South	6 (1)	1	—	7 (1)	33·5	·50
Bradford Moor ..	3	1	3 (1)	7 (1)	37·8	·424
Little Horton ..	4	—	—	4	40·1	·300
Manningham ..	2	—	—	2	40·5	·133
Totals ..	86 (3)	8	29 (7)	123 (10)		

Deaths in dark type

Table X *Summary of Work Executed in Factories and Workplaces 1949*

Summary of Work Executed						Factories	Work-places
No. of Additional W.Cs. provided	..	..	..	..	..	72	39
No. of Additional Urinals provided	..	..	..	..	..	27	5
No. of Obsolete Urinals renewed	..	..	..	..	..	1	—
No. of Existing Conveniences Provided with:							
(1) Sufficient Ventilation	..	..	..	..	..	142	12
(2) Intervening Ventilation Spaces	..	..	..	..	..	117	15
(3) Notices indicating sex of user	..	..	..	..	..	36	14
(4) Effective Screening	..	..	..	..	..	3	—
(5) Separate Approaches	..	..	..	..	..	18	3
(6) Effective Lighting by (day)	..	..	..	..	..	59	4
(7) Effective Lighting by (night)	..	..	..	..	..	156	21
No. of Conveniences in connection with which:							
(1) (a) Top and walls were white-washed, colour-washed or otherwise cleansed	..	..	..	..	..	172	11
(b) Surfaces were painted, renewed or satisfactorily cleansed	..	..	..	..	..	97	20
(2) Sanitary fittings were repaired	..	..	..	..	..	15	1
(3) General repairs to structure were carried out	..	..	..	..	..	24	2
(4) Drains, soil pipes, ventilating shafts were repaired or renewed	..	..	..	..	..	33	18
(5) Drains were cleansed	..	..	..	..	..	10	—
(6) Drains were amended or reconstructed	..	..	..	..	..	58	10
(7) New drains were provided	..	..	..	..	..	93	24
Drain Testing:							
No. of Colour Tests—P	..	..	..	..	..	14	2
N	..	..	..	..	..	117	11
No. of Volatile Tests—P	..	..	..	..	..	3	—
N	..	..	..	..	..	11	4
No. of Smoke Tests—P	..	..	..	..	..	4	—
N	..	..	..	..	..	21	2
No. of Hydraulic Tests—P	..	..	..	..	..	—	—
N	..	..	..	..	..	—	—

Works Executed in Compliance with Provision of the Act enforced by H.M. Inspector, but supervised by the Local Authority:

No. of Wash Basins, Troughs or Fountains provided:

No. of Wash Basins provided in workplace	—	32
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Table XI *Average Results of Analyses for Plumbo-Solvency of Water as Distributed*

				Grains per Gallon	Lead taken
				Lead	up to 24 hours
Thornton Moor Water Supply:					
45 samples before 8 a.m.	..	..	0·0000		0·0300
samples after 1 p.m.	..	..	0·0000		0·0302
Intermediate Level Supply:					
samples before 8 a.m.	..	..	0·0000		0·0340
samples after 1 p.m.	..	..	0·0000		0·0343
Low Level Water Supply:					
samples before 8 a.m.	..	..	0·0000		0·0345
samples after 1 p.m.	..	..	0·0000		0·0354

Table XII *Annual Deposits 1942-49* *Tons per Square Mile*

Year	Total Solids	Undissolved Matter		Ash	Sulphate as SO ₄ "	Chlorine as Cl'	Lime as Ca**
		Soluble in CS ₂ (Tarry Matter)	Insoluble in CS ₂ (Combustible Matter)				
North							
1942	201.50	2.78	23.81	67.45	25.39	21.75	4.36
1943	173.72	6.13	17.50	34.91	25.83	26.57	7.49
1944	201.22	5.35	19.75	36.48	30.71	32.83	10.88
1945	194.91	3.60	36.12	40.34	29.31	19.96	7.90
1946	157.63	4.05	20.40	31.48	36.17	24.43	8.31
1947	214.10	2.96	36.31	74.52	29.13	17.56	3.37
1948	166.39	3.46	23.76	38.04	21.20	16.14	1.76
1949	177.48	2.71	28.29	39.93	32.40	18.97	3.49
Central							
1942	278.64	4.41	45.86	101.43	28.44	27.15	6.70
1943	234.77	6.42	36.20	70.88	26.40	24.82	8.58
1944	246.00	6.83	35.77	68.91	29.03	35.14	9.04
1945	276.86	3.82	53.35	80.20	34.34	23.20	8.61
1946	255.92	5.30	40.01	78.89	42.34	32.61	6.05
1947	232.00	4.25	45.41	81.11	31.20	22.11	5.26
1948	233.28	3.65	44.33	75.15	30.58	23.73	3.53
1949	222.77	2.89	37.46	60.27	38.00	24.51	4.53

Table XIII *Mean Monthly Deposits for 1949* *Tons per Square Mile*

Station	Total Solids	Undissolved Matter		Ash	Sulphate as SO ₄ "	Chlorine as Cl'	Lime as Ca**
		Soluble in CS ₂ (Tarry Matter)	Insoluble in CS ₂ (Combustible Matter)				
North	14.97	.22	2.35	3.32	2.70	1.58	.29
Central	18.56	.24	3.12	5.02	3.16	2.04	.37

Table XIV *Results of Inspections and Actions under Food and Drugs Act, 1938, and Shops Act, 1934, Section 10*

Complaints investigated	82
Notices served	118
Informal letters sent	413
Notices complied with	59
Food and Drugs Act, Section 13 Contraventions:	
(a) Sanitary conveniences in direct communication with food room amended	6
(b) Walls, ceiling, floors and windows and doors repaired	101
(c) Walls, ceilings and doors cleansed	483
(d) Sleeping rooms directly connected to food premises abolished	7
(e) Ventilation improved	8
(f) Refuse removed and floors cleansed	39
(g) Cleanliness of clothing and apparatus abated	9
(h) Hot water, wash basins, soap and towels provided	111
Industrial canteens visited	397
Details of work executed:	
Water closet apartments lighted or ventilated	10
Water closet apartments cleansed	118
Water closet pedestals cleansed	27
Water closet general repairs	65
Water closet pedestals renewed	5
Water closet flushing apparatus amended	3
Soil pipes renewed	3
Choked drains cleansed	7
Drains amended	6
Drains reconstructed	5
Waste pipes trapped	1
Sinks renewed	55
Refuse bins provided	14
Urinals cleansed	2
Urinals amended or screened	1
Verminous premises dealt with	9
Prevention of Damage by Pests Act, 1949	9
Other nuisances	28
Drain Testing:	
Number of Volatile Tests—Positive	5
Number of Volatile Tests—Negative	5
Number of Colour Tests—Positive	11
Number of Colour Tests—Negative	83

Table XV *Table Showing Number of Samples Procured and Examined
in 1949*

Nature of Sample	Number Sub- mitted	Statutory Sample		Informal Sample	
		Genuine	Adult- erated	Genuine	Adult- erated
Aspirins	5	—	—	5	—
Almond Flavouring Essence	2	—	—	2	—
Baking Powder	7	—	—	4	3
Barley Flakes	4	—	—	4	—
Bicarbonate of Soda	2	—	—	2	—
Bile Ovals	1	—	—	1	—
Bisto	2	—	—	2	—
Blood and Stomach Pills	1	—	—	1	—
Blackcurrant Cordial	1	—	—	1	—
Bottled Beer	2	—	—	2	—
Butter	9	—	—	9	—
Bun Flour	2	—	—	2	—
Borax	1	—	—	1	—
Bovril	2	—	—	2	—
Brawn	1	—	—	1	—
Bubbly Gum	1	—	—	1	—
Beetroot	1	—	—	1	—
Bronchial Mixture	1	—	—	1	—
Bird's Pudden	1	—	—	1	—
Baked Beans	1	—	—	1	—
Borax	1	—	—	1	—
Cup-o-Phyl Tea	1	—	—	1	—
Cider	1	—	—	1	—
Cake Mixture	5	—	—	5	—
Camphorated Oil	1	—	—	1	—
Carnation Milk	1	—	—	1	—
Cascara Sagrada	1	—	—	1	—
Cup Koff	1	—	—	1	—
Custard Powder	6	—	—	6	—
Cough Mixture	1	—	—	1	—
Cream Doughnut	1	—	—	1	—
Chocolate Cup	2	—	—	2	—
Catarrh Pastilles	1	—	—	1	—
Coffee and Chicory Cakes	2	—	—	2	—
Cooking Fat	3	—	—	3	—
Cinnamon	2	—	—	2	—
Cocoa	2	—	—	2	—
Coffee	6	—	—	6	—
Coffee Extract	2	—	—	2	—
Cure-em-Quick	1	—	—	1	—
Curry Powder	1	—	—	1	—
Codeine Tablets	1	—	—	1	—
Crumpets	1	—	—	1	—
Calves Feet Jelly	1	—	—	1	—
Egg Custard	1	—	—	1	—
Full Cream Milk	1	—	—	1	—
Fruit Dessert	1	—	—	1	—
Fish Paste	4	—	—	4	—
Fruit Dessert	1	—	—	1	—
Gelatine	2	—	—	2	—
Glycerine and Honey	1	—	—	1	—
Gripe Syrup	1	—	—	1	—
Gravy Salt	1	—	—	1	—
Grape Fruit Squash	1	—	—	1	—

Nature of Sample	Number Sub- mitted	Statutory	Sample	Informal	Sample
		Genuine	Adult- erated	Genuine	Adult- erated
Ground Ginger	1	—	—	1	—
Headache Powder	2	—	—	2	—
Honey	1	—	—	1	—
Iodine	1	—	—	1	—
Indian Brandee	1	—	—	1	—
Iodised Throat Tablets	1	—	—	1	—
Ice Cream	36	—	—	36	—
Jam	2	—	—	2	—
Jellies	3	—	—	3	—
Liver Salts	1	—	—	1	—
Laxative Oil	1	—	—	1	—
Liquid Paraffin	1	—	—	1	—
Lime Juice Tablets	1	—	—	1	—
Lemonade	1	—	—	1	—
Maclean's Stomach Tablets	1	—	—	1	—
Mock Rice	1	—	—	1	—
Malted Milk	1	—	—	1	—
Margarine	3	—	—	3	—
Meat Paste	7	—	—	7	—
Meat Pies	17	3	—	14	—
Milk	469	25	4	425	15
Mince-meat	1	—	—	1	—
Mustard	3	—	—	3	—
Minced Beef	1	—	—	1	—
Macedoine	1	—	—	1	—
Mints	1	—	—	1	—
Marmalade	1	—	—	1	—
Nutmeg (ground)	1	—	—	1	—
Nutcubes	1	—	—	1	—
Nescafe	1	—	—	1	—
Nuskin	1	—	—	1	—
Olive Oil	1	—	—	1	—
Orangeade	1	—	—	1	—
Peel	1	—	—	1	—
Pepper	5	—	—	5	—
Pimento Ground	1	—	—	1	—
Powdered Borax	1	—	—	1	—
Polony	1	—	—	1	—
Pressed Beef	2	—	—	2	—
Peppermint Cream	2	—	—	2	—
Pears	2	—	—	2	—
Pepper Condiment	1	—	—	1	—
Rat Poison	1	—	—	1	—
Raspberry Vinegar	1	—	—	1	—
Rheumatic Mixture	1	—	—	1	—
Rennies	3	—	—	3	—
Rum Cup	1	—	—	1	—
Soya	1	—	—	1	—
Seidlitz Powder	2	—	—	2	—
Spaghetti	1	—	—	1	—
Salt	1	—	—	1	—
Sardines	1	—	—	1	—
Sandwich Spread	1	—	—	1	—
Small Sild	1	—	—	1	—
Soyghetti	1	—	—	1	—
Saccharine	2	—	—	2	—
Self-raising Flour	3	—	—	3	—
Sweet Fat	2	—	—	2	—

Nature of Sample	Number Sub- mitted	Statutory Sample		Informal Sample	
		Genuine	Adult- erated	Genuine	Adult- erated
Sausage	36	3	—	27	6
Sauce	3	—	—	3	—
Sugar	3	—	—	3	—
Salad Cream	4	—	—	4	—
Sweets	4	—	—	4	—
Soup	4	—	—	4	—
Semolina	5	—	—	5	—
Syrup	1	—	—	1	—
Steak	1	—	—	1	—
Syrup of Figs	1	—	—	1	—
Tea	5	—	—	5	—
Torox	1	—	—	1	—
Vinegar	1	—	—	1	—
Whisky	6	—	—	6	—
Wedding Cake	1	—	—	1	—
Worm Herbs	1	—	—	1	—
Yeast Tablets	1	—	—	1	—
Total	789	31	4	730	24

Table XVI *Feeding Stuffs Samples*

1A Layers Mash	1
Bean Meal	1
Pure Indian Meal	1
Chick Starta Mash	1
Cattle Food No. 1	2
Pure Barley Meal	1
Bran	1
Flake Maize	1
Grazing Nuts	1
Poultry Mash	1
Pea Meal	1
Dairy Ration	1

Table XVII *Fertilisers Samples*

Sangral	1
Sulphate of Ammonia	1
National Growmore	1
Superphosphate	1
Tomato Fertiliser	1
Orgarite	1
Granular Vegerite	1
Blood Manure	1

Table XVIII *Meat Inspection. Carcasses Inspected and Condemned*

	Cattle excluding Cows	Cows	Calves	Sheep and Lambs	Pigs
Number killed	2,446	9,785	14,572	35,801	2,101
Number inspected	2,446	9,785	14,572	35,801	2,101
<i>All Diseases except Tuberculosis:</i>					
Whole carcasses condemned	2	27	378	57	41
Carcasses of which some part or organ was condemned	124	6,025	16	924	503
Percentage of number inspected affected with disease	5.07	61.5	2.5	2.74	25.9
<i>Tuberculosis only:</i>					
Whole carcasses condemned	26	169	8	—	19
Carcasses of which some part or organ was condemned	474	2,688	8	—	265
Percentage of number inspected affected with Tuberculosis (approx.) .. .	20.4	29.1	109	—	13.51

Table XIX *Whole Carcasses and Offal Condemned 1949*

	Bulls	Cows	Bullocks	Heifers	Calves	Sheep	Pigs
Decomposition (general)	—	—	—	—	7	8	5
Dropsy (general)	—	5	—	—	4	21	9
Emaciation	—	9	—	—	6	21	1
Erysipelas (acute swine)	—	—	—	—	—	—	4
Fever (acute)	—	5	—	—	1	3	8
Immaturity	—	—	—	—	96	—	—
Jaundice	—	—	—	—	75	—	3
Pyæmia	—	2	—	—	177	1	1
Septicæmia	—	6	2	—	1	—	10
Tuberculosis	2	169	9	15	8	—	19
Bruising	—	—	—	—	5	—	2
Melanosis	—	—	—	—	5	—	—
Neoplasms	—	—	—	—	1	3	—
Totals	2	196	11	15	386	57	62

The condemnation of partial carcasses and organs are shown in the following table :—

Table XX *Partial Carcasses and Organs Condemned 1949*

		Partial Carcase	Lungs	Heart	Stomach and Intestine	Liver	Pluck	Udder	Head
Abscess	Beasts	27	39	—	Stom. 43	306	—	19	12
	Sheep	—	—	4	—	23	27	—	—
	Calves	—	—	—	—	—	2	—	—
	Pigs	6	—	—	—	—	17	22	—
Inflammatory Conditions	Beast	—	41	21	{ Int. 163 Stom. 19 }	16	—	282	—
	Sheep	—	—	—	—	—	24	—	—
	Calves	—	—	—	—	—	1	—	—
	Pigs	5	17	—	57	14	56	—	—
Parasitic Conditions	Beast	—	93	—	266	4,862	—	—	18
	Sheep	—	—	—	—	761	78	—	3
	Calves	—	—	—	—	—	—	—	—
	Pigs	—	—	—	8	12	5	—	—
Tuberculosis	Beast	57	2,043	232	{ Stom. 372 Int. 645 }	289	—	185	360
	Sheep	—	—	—	—	—	—	—	—
	Calves	—	—	—	—	—	8	—	—
	Pigs	—	—	—	194	13	90	—	58
Miscellaneous	Beast	44	15	—	{ Int. 31 Stom. 1 }	1	—	—	—
	Sheep	4	—	—	—	—	—	—	8
	Calves	—	—	—	—	—	5	—	—
	Pigs	11	—	—	6	—	3	—	9

Table XXI *Total Weight of Meat Condemned Home Killed*

Beef Carcasses	..	..	..	..	..	100,800 lb.
Partial Carcasses	..	..	..	..	..	7,747 lb.
Sheep Carcasses	..	..	..	..	..	1,532 lb.
Partial Carcasses	..	..	..	..	..	41 lb.
Calf Carcasses	..	..	..	..	..	11,580 lb.
Pig Carcasses	..	..	..	..	..	6,944 lb.
Partial Carcasses	..	..	..	..	..	731 lb.
						129,175 lb.

Imported Meat and Other Goods

Beef	..	..	..	..	..	3,753 lb.
Mutton	..	..	..	..	..	97 lb.
Bacon and Ham	..	..	..	..	..	201 lb.
Danish Udders	..	..	..	..	..	342 lb.
Corned Beef	..	..	..	..	..	102 lb.
360 Meat Pies	..	..	..	..	..	90 lb.
Total	..	..	..	..	..	4,585 lb.

Weight of Offals Condemned

Beef	..	..	..	..	..	19,682 lb.
Sheep	..	..	..	..	..	2,899 lb.
Calves	..	..	..	..	..	1,978 lb.
Pigs	..	..	..	..	..	9,219 lb.
Total	..	..	..	..	..	33,778 lb.

Total weights of meats condemned: 167,538 lb., or 75 tons, 4 cwts., 3 qrs., 6 lb

Table XXII *Various Condemned Foods*

					tons	cwts.	qrs.	lb.
Apples	..	..	..	..	2	3	3	20
Beans ..	..	..	..	..	—	15	2	—
Bread ..	..	..	..	..	—	10	—	22
Cabbages	..	..	..	..	12	6	2	—
Carrots	..	..	..	..	2	3	2	—
Cauliflowers	..	..	..	..	12	17	2	—
Cereals	..	..	..	..	—	1	3	6
Dry Fish	..	..	..	..	4	1	—	14
Dried Fruit	..	..	..	..	—	2	2	15
Flour ..	..	..	..	..	1	1	3	8
Lettuce	..	..	..	..	4	6	1	5
Mushrooms	..	..	..	..	—	1	2	20
Nuts ..	..	..	..	..	—	—	1	9
Onions	..	..	..	..	12	17	—	—
Parsnips	..	..	..	..	—	10	—	—
Peas ..	..	..	..	..	2	14	—	8
Potatoes	..	..	..	..	—	5	—	—
Plums..	..	..	..	..	—	—	2	16
Rabbits	..	..	..	..	1	7	1	3
Radishes	..	..	..	..	—	8	1	16
Savoy	..	..	..	..	—	17	—	—
Sprouts	..	..	..	..	—	10	1	12
Shellfish	..	..	..	..	4	12	3	21
Swedes	..	..	..	..	2	3	—	—
Soft Fruits	..	..	..	..	4	8	3	7
Tomatoes	..	..	..	..	—	10	2	14
Watercress	..	..	..	..	—	6	3	9
Wet Fish	..	..	..	..	11	8	—	7
Total	..	..	..	..	83	12	3	8

Table XXIII *Condemned Tinned Goods*

							No. of Tins
Meat	..	..	..	..	..	..	1,767
Fish	..	..	..	..	..	..	885
Milk	..	..	..	..	..	..	2,468
Vegetables..	..	..	..	..	..	..	1,683
Soup	..	..	..	..	..	..	446
Jam	..	..	..	..	..	..	119
Fruit	..	..	..	..	..	..	1,625
Bacon and Ham	..	..	..	..	..	..	11
Miscellaneous	..	..	..	..	..	..	508
Total	..	..	..	..	..	..	9,512

Table XXIV *Particulars of Work done 1945-49*

<i>Routine Visits and Inspections:</i>	1945	1946	1947	1948	1949
No. of Houses inspected under Public Health Acts	226	8,994	9,627	6,515	6,755
No. of Houses in respect of which notices were served requiring defects to be remedied	65	3,058	3,434	3,052	2,958
No. of Houses where defects remedied after formal notice:					
(a) By owners	29	3,451	2,695	3,039	2,195
(b) By L.A on default ..	14	301	232	358	335
No. of ordinary visits	21,042	28,408	25,437	23,347	23,611
No. of Houses rendered fit without service of formal notices ..	467	951	1,231	1,047	875
<i>Inspections and Visits:</i>	1945	1946	1947	1948	1949
No. of complaints investigated ..	3,471	3,960	4,704	4,073	3,726
No. of ordinary visits and inspections (other than dwelling-houses) ..	1,464	2,970	1,858	1,826	2,181
No. of Factories and Workshops visits and inspections	1,740	76	265	246	349
No. of Offensive Trade Premises visits and inspections	40	91	104	121	140
No. of Schools inspected	55	50	114	96	148
No. of Graveyards inspected ..	1	5	26	10	1
No. of visits to Common Lodging Houses	64	58	212	96	160
No. of Houses let in lodgings visited	2	19	2	7	2
No. of Canal Boats inspected ..	—	—	—	—	—
No. of Cinemas visited	20	63	69	48	32
No. of Piggeries visited	11	3	5	29	26
<i>Drainage and Sanitary Arrangements:</i>					
Choked drains cleansed	380	685	571	588	633
Drains amended	185	266	220	273	243
Drains reconstructed	138	306	202	330	424
Extra drains provided	48	75	98	123	124
Cellars drained	8	12	4	3	6
Drains underneath houses abolished	6	4	7	7	3
Drainage systems intercepted from sewer	11	5	3	7	10
Open drain inlets trapped	15	4	5	9	12
Waste pipes trapped	23	42	47	42	45
Waste pipes disconnected	29	45	44	43	44
Rainwater pipes disconnected ..	28	42	25	70	81

Table XXIV *contd.*

	1945	1946	1947	1948	1949
Rainwater conductors repaired or renewed	304	442	1,065	889	750
Sinks repaired or renewed ..	101	99	124	187	273
New sinks provided	27	74	51	89	54
No. of Houses reported for provision of Water Closets	21	33	34	63	97
Water closet pedestals renewed ..	80	102	143	210	96
Water closets and flushing apparatus repaired	162	190	178	234	205
Water closets cleansed	7	9	19	26	24
Water closet apartments cleansed and lime-washed	7	11	6	25	44
W.C. apartments properly lighted and ventilated	—	29	9	18	15
General repairs to water closets ..	266	351	387	391	339
Additional W.C. accommodation provided	47	74	72	85	103
Soil pipes repaired and renewed ..	22	30	48	70	61
Indoor soil pipes abolished	—	2	1	—	—
Privy apartments cleansed and lime-washed	2	3	—	—	1
Privy structures abolished	—	3	—	—	3
Deposits of slops in ashpits prohibited	—	—	—	—	2
Ashpits abolished	—	4	7	13	5
Dust bins repaired and renewed ..	2,657	1,708	1,115	1,071	668
Houses provided with new dust bins	1,025	586	176	212	45
Urinals cleansed, amended, or screened	3	23	8	9	11
Urinals remodelled	1	2	1	1	1
New urinals provided	—	1	1	—	—
<i>Dwelling-houses, etc.:</i>					
Dampness excluded	249	424	496	699	610
Roofs repaired	199	410	881	706	516
Houses or parts cleansed and lime-washed	21	22	13	23	31
Verminous houses dealt with ..	117	85	58	85	81
Ventilation improved	22	34	28	35	38
Windowcords repaired or renewed	257	398	280	674	1016
Lighting improved	3	10	3	10	16
General repairs executed	838	1,261	1,364	2,109	2,377
Kitchen ranges repaired or renewed	123	165	131	213	246
Washing coppers provided or renewed	12	29	37	48	68
Handrails provided	1	6	2	3	2

Table XXIV *contd.*

	1945	1946	1947	1948	1949
New food stores provided and ventilated	—	7	1	—	10
Water supply improved	71	104	108	110	140
Houses supplied with water ..	10	—	4	6	2
Outbuildings repaired	1	3	5	2	13
Overcrowding abated	—	—	—	—	—
Cellar areas cleansed	—	1	1	—	3
<i>Courts, Back-yards, Stable-yards, etc.:</i>					
Yard and passage paving repaired	10	13	35	48	36
Yards repaved	1	4	2	11	6
Yards and passages newly paved..	—	2	1	—	2
Yards cleansed	16	16	8	9	12
Passages cleansed and limewashed	—	1	—	—	—
Manure pits repaired	1	—	—	—	1
Manure pits provided	—	—	—	—	—
<i>Keeping of Animals, etc.:</i>					
Improper keeping of swine prohibited	—	1	—	—	2
Piggeries repaired	—	—	—	—	—
New piggeries provided	—	—	—	1	1
Piggeries abolished or disused ..	—	2	—	—	—
Impr keeping of fowls, etc., prohibited	4	13	8	15	21
Accumulations of offensive matter, etc., removed	17	39	42	47	71
Accumulations of manure removed	1	9	3	3	3
<i>Infectious Diseases:</i>					
No. of Zymotic Diseases investigated	1,099	1,006	1,104	1,170	969
<i>Factories:</i>					
Ventilation improved	7	32	62	65	3
Lighting improved:					
(a) Day		11	15	11	59
(b) Night	12	60	147	190	156
Intervening space provided to W.C.'s	9	6	27	—	117
Separate approaches to W.C.s provided	1	—	—	7	18
Screening, Doors, and Fastenings provided	—	6	23	15	3
Additional W.C.s provided	9	226	33	52	72
New urinals provided	1	3	—	4	27
Cleansed and limewashed	10	62	84	78	26
Ventilation to W.C.s provided ..	7	—	62	93	142

Table XXIV *contd.*

	1945	1946	1947	1948	1949
<i>Drain Testing:</i>					
Number of volatile tests:					
Positive	41	48	35	82	69
Negative	743	655	655	810	723
No. of colour tests:					
Positive	99	200	152	280	294
Negative	609	1,011	958	1,231	1,335
Number of smoke tests (Rocket):					
Positive	15	14	16	29	38
Negative	18	17	31	68	88
<i>Miscellaneous Nuisances:</i>					
Dangerous places referred to City Engineer	28	58	83	49	80
Dangerous places made secure ..	21	47	30	46	36
Chocked Street Gulleys reported ..	25	71	76	99	103
Wastes of water reported	37	60	102	56	57
Samples of water taken for:					
(a) Chemical Analysis	146	237	111	154	218
(b) Bacteriological Examination	287	312	361	249	371
Offensive Trades	—	—	—	—	—
Effluvium Nuisances abated ..	4	7	1	13	8

The specialised work called for under the Factories Act 1937, the Food and Drugs Act 1938, etc., was carried out by specialist inspectors as follows:

Table XXV

FACTORIES

*Inspections for Purposes of Provisions as to Health,
Including Inspections made by Sanitary Inspectors*

Premises	Number on Register	Inspections	Number of Written Notices	Occupiers Prosecuted
FACTORIES in which Sections 1, 2, 3, 4 and 6 are to be enforced by Local Authorities	180	129	17	—
FACTORIES not included in (i) to which Section 7 applies:				
(a) Subject to the Local Authorities (Transfer of Enforcement) Order, 1938	2,605	1,395	117	—
(b) Others	37	19	—	—
Other Premises under the Act (excluding out-workers premises) ..	—	—	—	—
TOTALS	2,822	1,543	134	—

Defects Found

Particulars	Number of Defects			Number of cases in		
	Found	Remedied	Referred to H.M. Inspector	Referred by H.M. Inspector	which Prosecutions were instituted	
Want of cleanliness	17	12	—	13	—	
Overcrowding	1	—	—	1	—	
Unreasonable temperature ..	9	4	—	9	—	
Inadequate ventilation ..	2	3	—	1	—	
Ineffective drainage of floors ..	—	—	—	—	—	
Sanitary accommodation {	insufficient ..	12	24	—	7	—
	unsuitable or defective ..	80	62	—	50	—
	not separate for sexes ..	16	12	—	9	—
Other Offences	72	35	8	29	—	
(Not including offences relating to Home Work or offences under the Sections mentioned in the Schedule to the Ministry of Health (Factory and Workshops Transfer of Powers) Order, 1921, and re-enacted in the Third Schedule to the Factories Act, 1937.)						
TOTALS	209	152	8	119	—	

Table XXVI

Outworkers' List, Section 110

Nature of Work	Lists received from Employers					
	For six months ending February 1949		For six months ending August 1949		Outwork in infected premises	Prosecutions failing to send in forms
	Lists Contractor	Outworker Workmen	Lists Contractor	Outworker Workmen		
Wearing Apparel:						
(1) Making, etc.
(2) Cleaning and washing
Furniture and Upholstery	..	2	2	1	1	2
Curtains and Furniture Hangings	..	3	3	1	3	3
Household linens	..	1	9	—	7	1
Umbrellas	..	1	1	—	1	—
Weaving (Burling)	..	56	163	391	58	332
Fur Pulling	..	1	3	—	1	3
Making or repairing of sacks	..	—	—	—	—	—

Table XXVII

Housing Statistics 1949

1.	The number of houses which on inspection were considered to be unfit for human habitation	435
2.	The number of houses the defects in which were remedied in consequence of informal action by the Local Authority or their officers	47
3.	The number of representations made to the Local Authority with a view to:	
	(a) the serving of notices requiring the execution of works	174
	or	
	(b) the making of demolition or closing orders ..	97
4.	The number of notices served requiring the execution of works	338
5.	The number of houses which were rendered fit after service of formal notices	314
6.	The number of demolition or closing orders made ..	97
7.	The number of houses in respect of which an undertaking was accepted under sub-section (2) of section 19 of the Housing Act, 1930	Nil
8.	The number of houses demolished	35
9.	Number of dwellings overcrowded on 1st January, 1949	1,553
10.	Number of houses becoming overcrowded between 1st January, 1949 and 31st December, 1949	131
11.	Number of houses decrowded between 1st January, 1949 and 31st December, 1949	74
12.	Number of overerowed houses on 31st Deeember, 1949	1,610

Section 7

School Health Service

GENERAL

SPECIAL SCHOOLS

MARGARET McMILLAN
SCHOOL

LISTER LANE P.D. SCHOOL

DAISY HILL PARTIALLY
SIGHTED SCHOOL

BOLTON ROYD SCHOOL FOR
DEAF PUPILS

LINTON RESIDENTIAL OPEN
AIR SCHOOL

DENTAL TREATMENT

PHYSICAL EDUCATION

City of Bradford School Health Report

School Medical Officer:

JOHN DOUGLAS, M.D., D.P.H.

Senior Assist. School Medical Officer: V. H. ATKINSON, M.B., D.P.H.

Assistant School Medical Officers:

P. VIEYRA, M.D., D.P.H.

DORIS M. LANGLEY, M.B., D.P.H.

J. D. BRYAN, M.B., D.P.H.

*C. E. PHILLIP, L.R.C.P. & S., D.P.H.

*M. K. ROSE, M.B., D.P.H.

Specialist Officers:

Ophthalmic Surgeon: W. O. LODGE, M.D., F.R.C.S.

Orthopaedic Surgeons: A. NAYLOR, CH.M., M.SC., F.R.C.S.E.

I. L. DICK, M.D., CH.M., F.R.C.S.E.

School Dental Surgeons:

H. V. MORRELL, L.D.S., R.F.P.S.

S. HALL, L.D.S.

†A. MORTIMER, L.D.S.

Child Guidance Clinic:

Psychiatrist: H. EDELSTON, M.B., D.P.M.

‡*Educational Psychologist:* Mrs. B. W. BROOK, B.A.

§*Psychiatric Social Worker:* Miss HAMILTON, B.A.

Physiotherapists:

Miss K. E. HUTTON

Miss E. M. MORRIS

Miss V. M. CRIBB

School Nurses:

S. COULTHARD, E. M. BENTLEY, J. MCCARTHY, K. HEINEMANN, M. H. GRAHAM, D. O'CONNOR, C. M. HAMILTON, F. A. DAY, M. KAY, N. CROSSLAND, H. VAN SWANNENBERG, L. KELLETT, B. SHIRES, A. LONG.

A. N. HINDMOOR

Speech Therapist:

||Miss REED

¶Miss AYRTON

* Appointed 1st October, 1949; † left 31st May, 1949; ‡ appointed 8th September, 1949; § appointed 1st January, 1949; || left 31st January, 1949; ¶ appointed 13th June, 1949.

City of Bradford School Health Report**School Health Service**

V. H. ATKINSON, M.B., D.P.H., *Senior Assistant School Medical Officer*

The continuous health supervision described in previous reports was maintained, and it is pleasant to record that two Assistant Medical Officers were appointed during the year, thus bringing the staff up to full complement. Following on these appointments strong efforts were made to diminish the arrears of work in the Lapage Street area consequent on the previous Assistant Medical Officer's retirement in 1947. It is hoped in the near future to open a new clinic in the Odsal area which will be very convenient to the residents of that area.

A special drive preceded the large number of injections given to reinforce immunisation against Diphtheria. During March an explanatory letter was sent to Head Teachers who kindly distributed pamphlet-consent forms to the parents of children under 9 years of age. The gratifying response enabled 5,553 previously immunised children to have their protection reinforced and 1,609 younger children to be immunised for the first time. The value of this campaign can be assessed by comparing the pre-immunisation incidence in Bradford during 1938 of 526 cases of confirmed Diphtheria, including 23 deaths, with 19 cases, including 2 deaths, during 1949. Eighteen of the cases and both the deaths occurred in children under 5 years and were the result of an outbreak in a nursery school during the month of January. The outbreak was rapidly brought under control and it is satisfactory to observe that there were no further cases in the City during the rest of the year.

There were 8 cases of Acute Anterior Poliomyelitis in school children. Of these none suffered severe paralysis and there were no deaths.

Among 11 school children admitted to the Isolation Hospital with Acute Gastro-Enteritis there was one death. One boy survived Tuberculous Meningitis, but resultant blindness necessitated his transfer to a residential special school.

The prolonged waiting period for the supply of glasses continued during the year and there is at present no signs of any real speed-up in this respect.

There was no deterioration noticed in the children's general condition by weight records or by clinical observation. Absenteeism owing to Scabies and associated Dermatitis was a diminishing problem. Outbreaks of Scalp Ringworm were also rarer and the cases which had occurred received X-ray treatment in St. Luke's Hospital. No cases of body lice was reported, but pediculosis occurred in the scalps of 4,264 individual children whose home care was faulty.

The demand for admission to nursery school and nursery classes exceeded the accommodation and priority was given to children under 5 years of age whose mothers worked in textiles and other essential industries. The young children remained free from serious infection and their meals were supplemented by free milk, cod liver oil and orange juice. Ferro-Sulphate tablets were prescribed where necessary.

The training of students entering their two years' Nursery Nurse Course was continued, and 17 out of 20 candidates passed their final examination.

The Physiotherapist at the Central Clinic dealt with 191 children who attended on 3,413 occasions; the cases were classified:

Kyphoses	..	..	..	..	..	..	59
Scoliosis	..	..	..	..	..	..	5
Foot deformities	..	..	..	..	..	..	84
Chest	„	..	..	..	..	..	6
Recent injuries	..	..	..	..	..	..	8
Rickets	..	..	..	..	..	..	4
Post p. T. and A.		..	..	..	..	..	9
Asthma	..	..	..	..	..	..	16
Total	..	..	..	..	..	..	191

No. of cases discharged cured	92
„ „ „ „ improved	28
„ „ „ left school	4
„ „ „ „ district	1
„ „ „ withdrawn from treatment	5
„ „ „ referred to St. Luke's Hospital	4
„ „ „ „ „ Eye & Ear Hospital	1
„ „ „ „ „ Linton Camp School	1
„ „ „ carried forward	55
Total	191

On the occasion of each routine inspection of the children at school, the Medical Officer surveys and reports upon the hygienic conditions of the school. In the appendix will be found a table showing the analysis of the hygienic conditions tabulated from the summary sheets which are completed by the Medical Officer at the close of each school inspection.

Special Schools

In accordance with the 1944 Education Act every effort was made to ascertain all types of handicapped pupils from the age of 2 years upwards.

THE MARGARET McMILLAN SPECIAL DAY SCHOOL. The waiting list of educationally sub-normal pupils hastened a discharge from the school of several children unable to derive proper benefit. The education given to the 180 educationally sub-normal pupils at the school necessarily stressed practical subjects; the senior girls devoted 2 days weekly to housecraft. Among readily appreciated social functions were an open day in July when visitors saw films of the school's activities, an excellent Gardening Exhibition in September, two parties and the Annual Concert during December. Grateful acknowledgment is made to the Head Mistress for generously undertaking extra work by Intelligence Testing at the Central and Child Guidance Clinics during the absence of a Psychologist.

Largely because their own homes were unsatisfactory Odsal House was again fully occupied by forty resident educationally sub-normal pupils. Their health record remained unblemished by any infection or serious accident. In many cases the pre-admittance poor morale showed a most gratifying response to adjusted education in a pleasant stable environment and especially to the whole-time social training given by the Head Master and his staff. A radio-gramophone set with four extension speakers provided many interesting programmes, also music for folk dancing. Self-respect was fostered by a rota of responsible duties, and where necessary by an issue of good clothing. Scouting, Guiding and Cubbing were added to leisure pursuits; ten boys joined a Spen Valley Troop's Easter Camp. Selected pupils derived great benefit by participating in walking tours; and their behaviour earned favourable comment from other users of the Youth Hostels.

LISTER LANE SPECIAL SCHOOL for Physically Handicapped Pupils accommodated 170 children aged 2 to 16 years. Two new Bedford buses were brought into service along with the two older vehicles to convey scholars from and to their homes daily: four children living outside the City travelled by taxi. Defects included poliomyelitis, spastic paralysis, osteomyelitis, loss of limbs, heart disease, chorea, hæmophilia and asthma. Doubly defective, epileptic and spina bifida cases with fæcal incontinence caused difficult problems.

The familiar terms ability, aptitude and age had particular significance here in grading children whose education needed to be highly individualised without pandering to any introspection. The teachers' patient skill was often rewarded by seeing sullen frustration transformed by progressive achievement into joyous fulfilment.

The Physiotherapists made good use of a new Guthrie Smith Sling, this ingenious apparatus fully supports a patient's weight without the inconveniences of an immersion tank. The two Orthopædic Surgeons held 347 consultations during 34 visits to the school; they performed 16 operations in hospital making some of the lame to walk. Experience

again showed the great benefit of skilled advice to handicapped young persons seeking employment within their competence.

During the past year a special point was made of helping senior scholars approaching leaving age to bridge the gap between the sheltered life of a special school and the everyday working world through an Evening Activity Group. The teachers helped the pupils with arts and crafts and invited speakers to talk on various subjects. The senior classes took advantage of the B.B.C. broadcasts to schools and had visual aids in the geography and history lessons with great success. The vocational subjects: commerce, cookery, boot repairing, needlework, woodwork and gardening were extended. The craftwork of raffia and wool weaving, book-binding and lino cutting were carried out successfully. All vocational work was planned to exercise muscles and limbs. The Parent-Teachers Association continued to stimulate interest in the children's work and life, and is creating a good relationship between the home and school.

DAISY HILL PARTIALLY SIGHTED SCHOOL had 44 boys and 58 girls on roll. Few limitations were placed on the curriculum though no fine sewing was allowed. Large hand lenses were used with ordinary text books, writing papers were clipped to upright desks to prevent crouched postures. Junior classes had illustrations projected by an episcopes which their teacher constructed. The popular interest in music was developed by copying melodies for, and playing on, recorder pipes. Girls took greater pains than did boys with that accomplishment. Both sexes enjoyed swimming, gardening and varied outside social studies. One girl was transferred to an ordinary school, and another gained a scholarship to the College of Art.

During the year Mr. W. O. Lodge, F.R.C.S. examined 320 children referred for specialist investigation. In December it was greatly regretted that his long and most highly appreciated service as Consultant Oculist had ended.

BOLTON ROYD SPECIAL SCHOOL accommodated 66 children in 6 classes graded according to age and hearing ability. In November preliminary discussions were held at the Eye and Ear Hospital regarding a possible supply of individual portable Hearing Aids for use in school. Owing to the demands of an Adult Institute the scholars were deprived of a large lawn and flower garden. To supplement limited local outdoor facilities the Clock House playing fields were made available on Monday afternoons. The School congratulated Joan Godfrey on gaining first place in the entrance examination to the Mary Hare Grammar School, while the Parents' Association presented her with a watch. That generous group also gave a House Championship Shield which was the object of very keen competition on the School Sports Day. Among other activities the Parents' Association travelled by motor coach to Manchester University Clinic for Deaf Children where, in company with Manchester parents, they witnessed a demonstration of work by Dr. and Mrs. Ewing with pre-school children.

A small class of moderately deaf children from various ordinary schools met at the Central Clinic on Monday afternoons and derived gratifying benefit from systematic Lip-reading instruction by Miss Stobart of Bolton Royd.

Speech Therapy

Speech Therapy had been in abeyance for five months prior to the 13th June 1949. The 48 children referred for treatment during the second half of the year were divided into three groups:

Group 1. Disorders of Articulation comprised 30 cases. Of these 4 were cured, 3 transferred to Educationally Sub-Normal Special School and 2 discharged as improved but incapable of deriving further benefit. The remaining 21 cases continued on treatment during the early part of 1950.

Group 2. Stammering accounted for 15 cases; all are still attending regularly except 1 who reached school leaving age.

Group 3. Disorders of Nasal Resonance comprised 3 cases of cleft palate. One of these is likely to attain normal speech, the other two will speak with much more clarity than at present.

The total number of attendances made by these 48 children from June to December was 597. Results were most beneficial where the treatments given at the Clinic were furthered in the homes and schools. The need of skilled collaboration is undeniable since stimuli of everyday environment decisively influence the speech development and whole personality of young children.

LINTON RESIDENTIAL OPEN AIR SCHOOL whose premises and organisation were described previously, took its annual vacation around Christmas. In contrast to the excellent care practised by the school staff it was evident many Bradford homes paid scant attention to Hygiene. On returning to Wharfedale 24 children had louse infested heads, many more were grimy while a large number were fatigued after late hours. During the year 180 pupils were admitted, 57 left because their parents failed to maintain agreed payments. Premature discharges owing to financial embarrassment were much regretted as experience showed that delicate and emotionally maladjusted children require six months or longer to derive lasting benefit.

An additional nurse was appointed in August. Structural improvements were made in the Clinic. Dr. M. Langley examined all the children in September and prescribed glasses where necessary. Mr. Morrell did a dental inspection, completing most of the required treatment at school with portable equipment; emergency cases were conveyed to the Bradford Central Clinic. A group of children who had previously missed immunisation against diphtheria was given that protection. Asthmatic cases gained such remarkable benefit that often their temperaments seemed transformed by the congenial circumstances. Similar success could not be claimed for enuretics, 3 out of 11 persistent bedwetters had to be sent home while 8 improved on patient regimes. Besides inevitable minor ailments there was an average number of

6 cases in bed. Seven children were transferred to hospitals for surgical treatment, viz.: 5 throat operations, 1 appendicitis and 1 mastoid abscess. Dr. Donaldson, Superintendent of Grassington Sanatorium, again proved himself an invaluable ally by visiting weekly, and responding readily to every emergency call.

Dental Report

H. V. MORRELL, *Senior Dental Officer*

The year 1949 was a most difficult year owing to staff shortage becoming more acute. Another dental surgeon transferred to private practice in May. One of the two remaining was ill for several months. This left only one dentist to cope with the school population of 40,000. According to a suggestion of the Ministry of Education ten dentists would be appropriate at the present rate of treatment acceptance. It is deplored that progress made towards a preventive scheme has been lost. Instead of the ideal that permanent teeth should be conserved by regular comprehensive inspection with booked treatment appointments, the work has been debased to relieving toothache of casual callers.

That expediency does not obtain at the Ilkley Approved School for Delinquent Boys' where preventive dentistry is happily illustrated. Biannual inspection with immediate though diminishing treatment leaves every tooth of the 48 resident pupils in immaculate health.

All the 7,199 emergency Bradford clients received attention. Whenever possible conservative treatment was also given to them. Two thousand six hundred and sixty-eight permanent and 12,155 temporary teeth were extracted; nitrous oxide anæsthesia was employed in 5,972 cases, the remaining extractions were completed under local anæsthetics. Nine hundred and seventy-six fillings were completed.

The commonest cause of faulty alignment was misplaced upper canine teeth. Judicious extraction of first upper premolars improved both appearance and function. Among other measures for the 63 orthodontic cases were the making and fitting of 13 individual appliances

at Edmund Street Clinic. This and many more instances of Mr. Shoosmith's kind co-operation are greatly appreciated.

It is ironic that the present remarkable demand for treatment which was fostered by pioneer School Dental Officers cannot be met by their Service.

Report of the Inspector of Physical Education for the year 1949

Introduction

It has been customary in the past to include only a short report upon the development and progress of Physical Educational Work in the Schools of Bradford. In view, however, of the very important changes that are now taking place in the whole conception and practice of Physical Education, it is felt that a much more critical and comprehensive review is called for.

Physical Education of the past

Until comparatively recent times, Physical Education treated every pupil "in the mass" as if, in his nature and his needs, he was exactly like his neighbour in the class-room. Consequently, every pupil was subjected to the same process; he was regimented and exercised and expected to respond, in unison with his class-mates, to the crisp commands of an instructor. Even corrective exercises were mass applied as if every pupil required the same dose of medicine, no matter what his individual complaint or requirement might have been. He was one of a herd.

Obviously such methods as these grew out of a system which was based not on the educational needs of the individual child or upon a complete understanding of his growth and development, but rather upon the effect upon the teacher-onlooker of a mass display. It was thus narrow in its range and formal in its methods, treating children as robots and marionettes, and giving them little scope for the exercise of their initiative or for the development of desirable social qualities.

New Ideas in Physical Education

The newer views of Physical Education centre round two basic conceptions; firstly, that it is completely wrong to regard it as a thing apart, that is, as mere exercise or education of the body alone; and secondly, that each individual child is a unique personality. Physical Education is simply one phase of the education of the whole child, making its approach from one aspect of his interests and his activities. It provides suitable conditions for the development of special abilities and skills and of temperament and character and thus assists the child in growing to his full stature and in bringing to full flowering all the varying potentialities—physical, spiritual, intellectual and social—of which he is capable. Clearly, such conceptions as these must influence both the content of any schemes used in the schools and the methods and techniques of applying them.

Teachers' Classes and Demonstrations

To assist the Teachers the Committee's Inspectors have compiled special schemes embracing a very wide and progressive range of movements and activities, all of which, besides being objective, have a very close relationship to the interests and natural activities of the pupils at all stages in their growth and development; and, in addition, have organised special demonstrations and teachers' classes to show the newer methods and techniques of applying them. The following is a list of these Demonstrations and Classes:

- (1) Vacation Course, lasting four days, held at the Thornton Grammar School during the Christmas Holidays, and attended by 80 Men Teachers. Special instruction was given by Specialist Coaches in the Coaching of Association Football and Athletics.
- (2) Weekly Lectures on the "Kinesiology of Movements," held at the Carlton Technical Institute, and attended by 35 Men and Women Teachers.

- (3) Weekly Course on the "Teaching and Coaching of Tennis," held at the Carlton Technical Institute, and conducted by the Official Coach of the L.T.A., Major Applewhaite, and attended by 10 Teachers.
- (4) Weekly Course on the "Coaching of Cricket," held in the Bradford Old Grammar School Gymnasium, and conducted by the Official Coach of the Yorkshire County Cricket Club. Ten Teachers in addition to a number of Youth Leaders attended this Course.
- (5) Central Demonstrations of Infant, Junior (Boys and Girls), Secondary Modern School (Boys and Girls) Physical Training Lessons, have been held at the following Centres:

(a) Green Lane School—the following Schools participating:

Allerton.

Green Lane, Infants and Primary.

Lilycroft Primary.

St. Joseph's R.C., Girls.

St. Patrick's R.C., Infants and Girls.

St. Peter's R.C., Mixed.

St. William's R.C., Girls.

(b) Great Horton Secondary School—the following Schools participating:

Great Horton, Infants.

Great Horton, Primary Boys.

Great Horton Secondary, Boys and Girls.

St. Barnabas.

St. Stephen's Primary.

Thornbury Girls.

(c) Drummond Secondary School—the following Schools participating:

Allerton.

Drummond, Boys and Girls.

Great Horton Primary.

St. Barnabas.

Thornbury Girls.

Area Demonstrations have been held at the following Centres:

- (a) Bowling Back Lane, Infants and Primary.
- (b) Carlton Street—the following Schools participating:
 - Clayton, Boys.
 - Highfield.
 - Usher Street, Boys.
- (c) Gregory Girls.
- (d) Priestman.
- (e) St. Augustine's, Infant and Junior.
- (f) St. James's.
- (g) St. Peter's R.C.
- (h) St. Stephen's.
- (i) Usher Street—the following Schools participating:
 - Lorne Street, Primary.
 - Tyersal, Infants.
 - Usher Street, Infants.
- (j) Usher Secondary Girls.

All these Demonstrations, although conducted during out-of-school hours, have been attended by some hundreds of Teachers; in fact, on occasions the accommodation has been overcrowded.

- (6) Demonstration of Methods of Coaching Cricket to Junior Boys, held at Bradford Moor and Swain House. The attendance at these Demonstrations was very disappointing.

Demonstrations were conducted out-of-School hours.

It is no exaggeration to say that the more enlightened conception of the meaning and value of Physical Education, as well as of the methods of teaching it, as discussed and shown in these Classes and Demonstrations, has received the unqualified approbation of the Committee's Teachers, but the effect upon the pupils themselves needs to be seen to be appreciated fully. The objectivity of the work and the opportunities afforded the pupils of assessing their own achievement in the way of skills, the business-like way in which they set about

their activities, the initiative they show and the enjoyment which they experience, point to the fact that the content of the Scheme is thoroughly sound.

It is hoped that the importance of giving skill training during the Primary School stage will be recognised by all concerned. It is a matter of common observation that the possession of the simple skills required by a child of this age for the playing of his games, furnishes the pupil with a feeling of confidence and pride in himself. Indeed, it is probable that no other single factor counts so much in a boy's feeling of adequacy or in giving him a sense of usefulness to his class or group community than to be able to play games reasonably well with his group. Amongst boys especially, physical prowess and games ability are pre-eminent in establishing prestige with one another. The further development of "group work" which has been demonstrated in the Teachers' Classes should do much to encourage the pupils to improve their skills from the level at which they have arrived. Pressure of the Secondary School Selection examination should therefore, not be allowed to diminish the amount of time given to the Physical Education of pupils of this age group.

Indoor Accommodation

But no matter how enthusiastic Teachers and Scholars may be, or how generous the Committee may be, as it is, in the provision of suitable apparatus, it is very difficult to secure the best possible results unless the environment in which the work is taken is suitable. There are only three completely equipped gymnasia or exercise rooms in the whole of the Committee's Schools. On one school site, namely, Grange Grammar School, one very small gymnasium, with no changing accommodation, has to serve the needs of two departments, with approximately 1,000 scholars. The Boys of Belle Vue Grammar School have to make a journey of ten minutes to reach their gymnasium. Hanson Boys' Grammar School use a very small dilapidated hut, whilst the Girls use a small, dark, cellar type of hall. All the Secondary Modern

Schools use School halls which are fitted in the main with wall bars and portable apparatus, while most of the Junior and Infant Schools also use halls and playgrounds only.

The use of school halls as exercise rooms is open to serious objections:

- (1) There is often considerable interference, through noise, with the work that is going on in surrounding class-rooms. Children cannot be expected to participate in activity without making some noise. It is for this reason that in new schools activity rooms are usually placed well away from the class-rooms.
- (2) The floors of the halls become very dirty because of the traffic across them. This state makes it practically impossible, unless special mats are used, to include activities in which the pupils lie or kneel on the floor. These activities provide some of the most valuable and enjoyable forms of exercises; thus, their omission is to be deprecated.
- (3) The growing practice of using halls as class-rooms in order to accommodate additional children means that Physical Training lessons are often omitted because of the vagaries of our Bradford weather. It is, therefore, sincerely to be desired in the interests of the efficiency of the Schools that some kind of indoor accommodation for Physical Educational purposes should be provided.

There is an almost complete absence of suitable changing and washing accommodation in our Schools. Only three Schools—Thornton Grammar, Bolling Grammar and Carlton old premises, now occupied by the Junior School of Art—have such accommodation. It is thus quite impossible in present circumstances to give the scholars that training in cleanliness and hygiene after participation in exercise which should form an important part in the education of every child.

Organised Games

Organised Games are a necessary complement to the physical educational work done within the School building. In general, therefore, scholars in the Committee's Junior and Secondary Schools participate

in them. Much valuable work is done in the school playground and many admirable games are being taught there; but the wider space and grass surface of the Playing Field are needed if the best results are to be obtained. Furthermore, in considering Playing Fields, it must be remembered that adequate games pitches with good surfaces are indispensable. It is impossible to plan a satisfactory organisation which caters for the needs of children with special aptitude, as well as for those of their less gifted fellows, if only one games pitch is available. Restricted space means that only a section of a class can be suitably occupied and this results in the other sections being left to fend for themselves—a procedure which cannot be criticized too severely.

The facilities provided by the Authority for the implementation of a sound Organised Games Scheme in the Schools of the City cannot be regarded as satisfactory. The following gives a picture of the situation as it is at present:

(a) *Playing Fields on School Sites:*

(i) *Primary Schools.*

There are only ONE Infant (Haworth Road) and ONE Junior and Infant School (Swain House) situated on Playing Fields; and in the case of the latter, more than half of the field is assigned to the sole use of one of the Committee's Grammar Schools (Belle Vue Grammar School).

(ii) *Secondary Modern Schools.*

Not one Secondary School is situated on its own Playing Fields. Within the past few years, about 10 acres of land have been purchased on a site adjacent to Wibsey Secondary School and this is now in use, though a considerable amount of work is still necessary to make it completely satisfactory for Organised Games purposes. Similarly, about 5 acres of land have been purchased within very easy reach of Hutton Secondary School, and this, too, is being used.

(iii) *Grammar Schools.*

Of the NINE Schools, THREE Schools only have fields on the School site (Bolling, Grange Boys' and Thornton). In the case of TWO others (Hanson Boys' and Girls') the adjacent space (Myra Shay) can hardly be described as a Playing Field and is not a part of the actual School site. Belle Vue Schools have fields at some considerable distance away from the actual School buildings. Grange Girls' use a field approximately a mile away, and the Carlton Grammar School Boys attend Odsal, a distance of 3 miles away from the School.

The Independent Schools have approximately an acreage of 31 acres.

(b) *Communal Playing Fields:*

These Fields are used in most cases by both Primary and Secondary Schools and it is difficult to sum up the situation under separate headings.

There are TEN of these fields, TWO of which (Trinity Road and Scotchman Road) are for the exclusive use of Grange Grammar School and Belle Vue (Boys and Girls) respectively. Owing, however, to the generally unsatisfactory position of Playing Fields facilities, it has been found necessary during the past few years to allow other Schools some access to the Trinity Road fields.

One small field (Haworth Road Infants' School) has never been used for Organised Games purposes, and was under cultivation during the war years. Work is now being done on this field to bring it into service. One other small field (Tyersal) is virtually unusable owing to the exceptionally shocking condition of the surface and the position of a Nursery School building. The remaining six fields have a total of 45 acres and are used by 29 Schools.

Conditions of the Fields:

For the most part, the fields are in a most deplorable condition and consist very largely of rough grass interspersed with bare patches. This state is undoubtedly due to one or more of the following conditions:

- (a) Consistent over-use owing to the very small acreage available, resulting in permanent impoverishment.
- (b) Trespass and interference on the part of the public. This is particularly noticeable at Myra Shay, Spencer Road and Scotchman Road. Interference is due partly to the removal of the railings and partly to the assumption of the general public that School Playing Fields are a kind of public recreation ground after School hours. It is probably true that the derelict appearance of these fields does not command the respect of the public.
- (c) Lack of adequate maintenance due (i) to the inadequacy of the Staff in respect of numbers; (ii) their diversion to other jobs, e.g. gardening and agricultural work; and (iii) to the difficulty experienced in obtaining suitable machinery, equipment and other necessary materials.
- (d) The laying of fields on tipped ground with insufficient top soil and inadequate maintenance. A section of Spencer Road, now built on, was a particularly bad example of this. Some sections of Bolling Grammar School Playing Field were also bad, but attempts to rectify this have been made.

The Playing Fields of the Bradford Boys' Grammar School show that Playing Fields can be most successfully made on tipped ground if adequate maintenance and constant attention can be given to them.

Undoubtedly, the best ground in the possession of the Authority at the moment, is the Trinity Road (Bradford Tennis Club) ground, used by the girls of the Grange Grammar School. There is, however, a very grave danger that unless this ground is given as much rest as possible out of school hours, rapid deterioration will set in, if not restricted. The hard tennis courts on this ground are in a deplorable condition.

Of the remaining grounds, those at Swain House, Bolling, Hutton Road (Priestman), Scotchman Road, Clock House, Spencer Road, Woodhall, are in poor general condition. The ground at Thornton shows promise of a reasonably good development.

Changing Accommodation.

At one field—Swain House—there are two huts with a brick connecting passage. These have showers. From time to time, considerable damage has been done to these huts by hooligans and trespassers upon the Fields. There is also good accommodation in the changing pavilion at Thornton Grammar School. There are no showers elsewhere.

Four Fields (Myra Shay, Scotchman Road, Clock House, Woodhall) have huts for changing but, with the exception of Woodhall, have no “offices.” All these huts are in a poor condition.

Three Fields (Odsal, Hutton Road and Tyersal) have neither changing huts nor “offices.” The position at Odsal is unsatisfactory, for the changing accommodation forms part of the premises of a school occupied by E.S.N. children.

Other Playing Field Facilities:

In the absence of adequate Playing Field facilities of its own, the Education Committee has sought the co-operation of the Parks Department, which has allowed the Schools to use public playing spaces during school hours at practically no cost. Whilst this gesture is most highly appreciated, *it is open to serious objections on educational grounds.*

- (a) The situation of the Parks in relation to the Schools using them invariably involves a wastage of valuable “school” time in journeying to and from them. Furthermore, in those cases where children are transported on the Public Transport Services, considerable inconvenience is felt by the general travelling public.
- (b) The use of public parks must always be subject to the limitations imposed by the legitimate claims of other users. Not infrequently these claims are vigorously expressed and the distraction, irritation and trouble caused are such as to make the time spent on them valueless from the educational point of view.

- (c) The games played by school children serve an educational purpose, and therefore must be considered from the point of view of the child and its education. The pitches must be suitably marked for the special games figuring in the scheme; they must be of suitable size, and the surface must be such that all risk of accident through the presence of "traps" is avoided.
- (d) The teachers are compelled by circumstances to take a line of least resistance, so that the Organised Games period resolves itself into a Game between the School team and a scratch side, with the remaining children "fending" for themselves.

This procedure is very strongly condemned by the Ministry in its Official Publications, and is one which cannot be defended on educational grounds.

- (e) The absence of changing accommodation, with shower baths, tempts one to question the desirability of including Organised Games in a scheme which embraces "health practice."

No such facilities exist on any of our Bradford Public Parks, nor is there adequate and suitable accommodation for the pupils should there be the occasional storm or shower of rain.

That the Public Parks are used at all serves as an indication that the Teachers regard the playing of all types of games as an important element in the education of their children, and they have "put up" with the conditions prevailing to ensure that their children shall receive at least a few of the benefits to be derived from the playing.

General Observations:

- (a) It is quite clear that the present acreage of land reserved as "School Playing Fields" is totally inadequate to satisfy the provision of the 1944 Education Act. This acreage is approximately 100 acres, whereas approximately 585 acres are required.
- (b) Observation suggests that there is land within the City boundaries, but whether it can be secured, even under "Compulsory Purchase Orders" is quite uncertain. This land can be divided into two categories:

- (1) Land preserved by Private Clubs as Sports Grounds—e.g. private Cricket Grounds which are in use for only four months of the year; or Private Football Grounds, used for eight months. Any attempts to secure these grounds would probably arouse a great deal of opposition, and would engender a great deal of ill feeling. Moreover, the present use of these grounds could be justified under the "Physical Training and Recreation Act of 1937."
- (2) Land at present in the occupation of Farmers, and therefore valuable from the "Food Production" point of view. Any attempts to secure this would probably be resisted by the Ministry of Agriculture.
- (c) It is suggested, however, that all lands purchased by the Education Committee as future School sites should be developed immediately as School Playing Fields. This is a strong recommendation of the Head Teachers of Secondary Schools and is contained in the Memorandum on the Curriculum for the extra School Year.
- (d) It is recommended that serious consideration be given to the enclosure by suitable fencing of existing School Playing Fields. This will serve to prevent unauthorised use and trespass which is so prevalent at the moment.
- (e) It is recommended that an increase in the number of men employed on the maintenance of the Playing Fields be authorised.
- (f) It is recommended that an increase in the estimated provision of machinery and materials for the maintenance of the Fields be made.
- (g) As the problem of providing sufficient spaces for every individual School in Bradford is likely to prove insoluble, at least for some time to come, it is suggested that the provision of large school Playing Fields with classroom and changing accommodation be explored. This provision would make the task of arranging suitable times much easier and would get over the difficulty of

sudden changes in the weather. It would also ensure that the spaces were used in a way best suited to the needs of the children, and would very materially assist the development of other forms of activity besides the National Games.

Schemes of Organised Games.

In the main, the Schemes at use in the Schools have some relationship to the National Games like Association Football and Cricket. It is felt, however, that concentration upon these games is educationally unsound and, unless there is a very careful and graduated training in the fundamental skills, is likely to result in considering only the needs of the specially gifted athletes. Obviously, therefore, the scheme must be based on broader lines and must include other games and activities which will arouse the interest of all—the less gifted included—providing everyone with opportunities for the exercise of the talents they possess to good advantage and to the profitable use of their leisure hours.

The Organised Games Scheme, therefore, should include:

- (a) A comprehensive number of Team Games and Competitions embracing the application of skills learned in the physical training lesson.
- (b) The highly organised National Games—Football, Cricket, Stool Ball, Rounders, Net Ball, etc.
- (c) Athletics, including Field Events, providing training in Sprinting, High and Long Jumping, Hurdling, Putting the Shot, Pole Vaulting, etc.
- (d) Games which, besides taking the pupils into the open-air (Parks and Countryside), provide challenging outlets for their individual powers, and a taste of adventure and enterprise by bringing them into contact with searching occasions demanding maximum effort.

A Scheme drawn up on these lines should satisfy the general aims of Organised Games as an essential element in the education of our children:

- (a) To give the children enjoyable and useful practice in a *progressive* series of Games and Game-like Exercises, leading up to and including the highly organised and skilled Team Games.
- (b) To teach them to "go all out" for the success of their team, and "to accept victory with modesty and defeat with good temper."
- (c) To provide opportunities for the best use of physical powers through activities which appeal to the spirit of adventure, call for courage and the exercise of resourcefulness.
- (d) To provide them with opportunities for the development of character, leadership and esprit de corps.

Swimming Instruction.

Swimming Instruction in the Schools takes place all the year round. For an inland town, such as Bradford is, this must be regarded as most satisfactory. The number of Baths available are as follows:

- (a) Three Baths—Green Lane, Feversham Street, Wapping—wholly administered and maintained by the Education Committee.
- (b) Three Semi-School Baths—Lapage, Grange, Wibsey—situated on Education Committee's premises but administered by the Baths Department of the Corporation.
- (c) Seven Public Baths belonging to the Baths Department of the Corporation.

Tribute should be paid to the willing co-operation of the Superintendent of Baths, who, as far as he possibly can, allows the scholars exclusive use of the Baths under his control on certain days of the week. But, great and cordial as this co-operation is, the only satisfactory solution to the increasing demands for Swimming Instruction seems to be an increase in the number of Baths on School Premises.

Swimming Staff.

It has been the policy of the Committee since the inception of the present system of Swimming Instruction in the early '30s to employ a

number of specialist teachers of Swimming. The present staff consists of three men and three women who are employed whole time, and two women "supply-teachers."

An increasing number of Schools are having to utilize the services of their own physical education specialist who, of course, is well qualified to give instruction. This is a good policy as it ensures that the fundamental preparatory work is taken at School. Furthermore, interest is always sustained at a high level; Individual School Galas can be more easily planned and thus the interest of parents can be secured.

Scheme of Instruction.

The scheme of instruction in Swimming is based on the methods advocated by the Amateur Swimming Association. The aim is to teach children to swim with a good style, and encouragement to do so is provided by the award of five graded certificates, in all of which a steady improvement in the style is demanded. There is every reason to believe that these certificates are valued by the pupils who win them.

The Baths Department awards a Free Pass on the result of the fourth stage of the certificate, and this Free Pass is renewed by taking further tests.

The extent to which the Schools use the facilities provided for Swimming can be seen from the following statistics:

Number of children attending during the year ..	294,236
Number of Certificates awarded during the year..	5,167
Approximate number of Free Passes awarded during the year	500

Possible Future Development.

The demand for Swimming facilities is increasing at a rate which far exceeds those available. The time is rapidly approaching when it may be necessary to suggest to the Committee that these facilities be restricted to pupils in the last year of the Junior School Course and the first year of the Secondary School Course. Such a two-year course would enable pupils to obtain the Committee's certificates together with the Baths Department Free Pass, thus encouraging them to continue their Swimming out of school periods.

Quite obviously, the task of the Committee is primarily that of getting as many children as possible to swim. Competitive work, therefore, can safely be left to the School's Swimming Association, a voluntary organisation conducted by the Teachers, which is doing really excellent work in the City.

Training Classes for Teachers.

A Training Class has been conducted to give Teachers an insight into the best methods of teaching Swimming, and to enable those who so desired to take the "A.S.A. Teachers' Certificates—Elementary and Advanced." The number of Teachers attending this Class was 42.

Dancing.

For a long time, thanks to the enthusiasm of local teacher-members of the English Folk Dance and Song Society, a great impetus was given to the teaching of our own traditional Folk Dances as well as those of other countries. Latterly, however, attention has been directed towards the introduction of Dancing on more universal, more general lines, linked to a knowledge and appreciation of music, and recognised not only as a means of physical development but as a medium for the expression of individuality. The desire for spontaneous, rhythmical movement is inherent in every child, and all children in whatever type of School should be given a simple technique or grounding on which they can develop further if they have the desire and ability to do so. Many children will go no further, but an elementary course of training in movement to music based on natural actions such as walking, running, skipping, bounding, and performed with appreciation of musical form and dynamics will be of value to every child.

Dancing, however narrowly or widely we regard it, is a vital form of bodily exercise which deserves a place in Physical Education. Children naturally express their pleasure in song and dance; the desire for rhythmic movement is inherent to them. More and more in the public mind the conviction is growing, and rightly so, that the combination of music and dance movement (as distinct from physical training) is

not only a great art but a valuable means of educating body, mind and character in one harmonious whole. It is, moreover, in some directions also a social art, bringing boys and girls together in an easy and friendly way, of which Schools should not fail to make full use.

The sphere of school dancing and its fundamental values in education can be stated thus:

- (a) It teaches, perhaps first and foremost, control and balance of mind and body, and aids in encouraging poise, ease and lightness of movement. It furnishes a steady and gradually extending use of the whole body and not only of one particular part.
- (b) Secondly, it arouses a living sense of rhythm, leading with practice and harmonious, graceful and unified movement.
- (c) It affords direct training of eye and ear, and develops a feeling of space and order, as well as a subtle intellectual quality, which may perhaps be termed movement-memory.
- (d) Lastly and perhaps most important of all, dancing gives scope for the imaginative and creative powers of the child to find expression of its personality in action.

With so much at stake, dancing must be well and wisely taught.

As far as the Bradford Schools are concerned, the aim has been to give the pupils experience during their school life in as many types of Dancing as amenities allow—Folk Dancing (English, Scottish and other lands), National Dancing, Natural Movement and Modern Dance giving scope for “creative movement” and Ballroom Dancing. In addition, some Schools, chiefly Infant and Junior Departments, have taken the Music and Movement Broadcast Lessons. Further developments depend to a large extent upon the training and knowledge of the Teachers, for it is recognised that its teaching is not a side of Physical Education within the scope and powers of all; but with the appointment of Women Physical Education Specialists with Advanced Course qualifications, which include Dancing, the future seems to be secure. As long as the aim continues to be the teaching of *Dancing* rather than *dances*, to create rather than copy, to secure grace of movement

developing through training of the body in ease, freedom and strength rather than by teaching "graceful movements," and encouraging natural expression instead of self-conscious—then its teaching is fully justified. There is at least one School in the City where such work can be seen.

Conclusion

This Report cannot conclude without some reference to the voluntary work which is done by Teachers in extending the work of Physical Education beyond the limits of the School time-table and the ordinary School syllabus. The Bradford Schools' Athletic Association has a long history of high achievement in the interests of the scholars. Its numerous branches—Football, Cricket, Athletics, Swimming, Netball, Rounders—are organised by keen, interested Teachers who give ungrudging and voluntary service for the benefit of the School children of the City. Every Saturday morning during the winter months, dozens of School Football teams are engaged on playing fields and in the public parks in inter-school competitions. In the case of the girls, dozens of teams are engaged in Netball competitions. In the summer months, Cricket is played by the boys and Rounders by the girls. The Park Avenue School Sports Day has attracted so many thousands of entries that two half-days have now to be devoted to running off the events. But for this work many children in the City would be left to fend for themselves. The work thus done by the Teachers is widely appreciated, but the greatest appreciation of all, one feels, is shown in so many ways by the enthusiasm of the children themselves, and it is this which gives the Teachers great satisfaction in what they are doing.

September, 1950.

F. J. C. Marshall.

The statistical summary of the findings of medical inspections and treatment provided during 1949, the forty-second year of the School Health Service, is appended.

Number of periodic inspections:

Entrants	2,519
Second Age Group	2,831
Third Age Group	621
Other Routine Inspections	8,998
Total ..	14,969

Table XXVIII *Defects Found*

Defect or Disease					Requiring Treatment	To be kept under Observation
Skin					359	171
Eyes: (a) Vision					959	1,229
(b) Squint					132	186
(c) Other					96	22
Ears: (a) Hearing					48	22
(b) Otitis Media					33	1
(c) Other					23	4
Nose or Throat					859	926
Speech					30	32
Cervical Glands					34	128
Heart and Circulation					601	321
Lungs					189	47
Developmental: (a) Hernia					4	2
(b) Other					102	43
Orthopaedic: (a) Posture					505	70
(b) Flat Foot					362	83
(c) Other					169	402
Nervous system: (a) Epilepsy					5	3
(b) Other					158	58
Psychological: (a) Development					29	33
(b) Stability					3	—
Other					230	31

On the occasion of each routine inspection of the children at the school the Medical Officer surveys and reports upon the hygienic conditions of the school.

The following table is an analysis of the hygienic conditions tabulated from the summary sheets which are completed by the Medical Officers at the close of each school inspection.

Table XXIX *Hygienic Conditions*

Items in Schools Reported On						Conditions found Provided Schools Inspected	Non- provided Schools Inspected
						79	50
1.	Surroundings: Open	..	..	..	..	50	26
	Thickly populated	..	..	..	..	29	24
2.	Ventilation: Natural—Satisfactory	..	..	..	..	62	41
	Unsatisfactory	..	..	..	..	4	2
	Artificial—Satisfactory	..	..	..	..	9	6
	Unsatisfactory	..	..	..	..	8	1
3.	Lighting: Natural—Satisfactory	..	..	..	..	33	19
	Unsatisfactory	..	..	..	..	2	1
	Artificial—Satisfactory	..	..	..	..	44	22
	Unsatisfactory	..	..	..	..	8	8
4.	Heating—Satisfactory	..	..	..	..	69	50
	Unsatisfactory	..	..	..	..	10	—
5.	Furniture—Desks: Old-fashioned—Satisfactory	..	..	..	..	38	40
	Unsatisfactory	..	..	..	..	17	1
	Modern—Satisfactory	..	..	..	..	24	9
	Unsatisfactory	..	..	..	..	—	—
	Blackboards—Satisfactory	..	..	..	..	77	50
	Unsatisfactory	..	..	..	..	2	—
6.	Water Supply: Washing (towels, etc.)—Adequate	..	..	..	..	64	45
	Inadequate	..	..	..	..	15	5
	Drinking Cups—Adequate	..	..	..	..	68	41
	Inadequate	..	..	..	..	11	9
7.	Cloakroom: Condition—Satisfactory	..	..	..	..	69	35
	Unsatisfactory	..	..	..	..	10	15
	Arrangements for Drying Footwear and Clothing—Present..	..	..	..	..	29	26
	Arrangements for Drying Footwear and Clothing—Absent	..	..	..	..	50	24
8.	Condition and Cleanliness of Walls and Floors:						
	Satisfactory	..	..	..	..	49	39
	Unsatisfactory	..	..	..	..	30	11
9.	Sanitary Conveniences: Lavatories—Satisfactory	..	..	..	..	60	36
	Unsatisfactory	..	..	..	..	14	13
	Satisfactory but in- sufficient	..	..	..	..	5	1
	W.C.s—Satisfactory	..	..	..	..	36	38
	Unsatisfactory..	..	..	..	..	23	10
	Insufficient	..	..	..	..	13	2
	Automatic flush	..	..	..	..	7	—
	Urinals—Satisfactory	..	..	..	..	52	32
	Unsatisfactory	..	..	..	..	19	7
	Satisfactory but in- sufficient	..	..	..	..	3	—
10.	Playground: Satisfactory	54	35
	Satisfactory but inadequate	14	8
	Unsatisfactory	11	7

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